

MODERN PACKAGING



AUGUST 1941

We take a Tip from the Circus

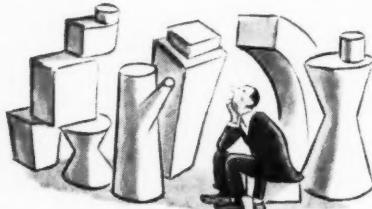
The Story of a Problem in Shipping Containers

YEARS AGO, the circus found out:
—how to stow elephants in box cars,
—how to fasten heavy animal cages to
flat cars,
—how to pack 1000's of yards of canvas.
And all to the end that this property
would arrive at the next town in un-
damaged condition.

Now, believe it or not, American Can
Company has long had an equally com-
plicated shipping problem.

Naturally, we don't ship elephants,
tent canvas, or caged animals. But we *do*
ship objects which are in themselves just
as various in size and shape. Which are
just as difficult to stow in freight cars.
Which have just as diverse handling
problems. *And which, indeed, are probably
more easily damaged in transit than a
circus's property.*

These objects are metal containers.
Round ones. Flat ones. Square ones.
Containers with spouts. Containers made
of fiber. Containers in almost as many shapes
and sizes as there are solids in a geometry
text book.



So, taking a tip from the circus, we de-
cided to find out the best way to stow and
brace these products in freight cars. *And all to the end that containers would arrive
at the customer's warehouse in undamaged
condition.*

The problems we ran into were not
easy ones to solve.

For, as you probably know, freight
cars themselves differ in size. As you
probably don't know, they vary in length



from 30 feet to 60 feet and in width from
8 feet 5 inches to 9 feet 2 inches. And we
soon found out that stowing any one
type of container in any one type of
freight car was a problem in itself.

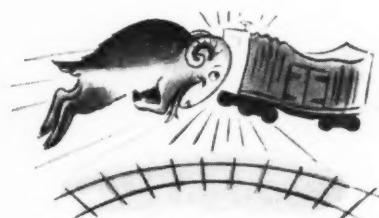
All right. But there are thousands of
types of containers. And many types of
freight cars. *That makes a whale of a lot of
ways of stowing and bracing shipments.*

Then, there are what traffic people call
"mixed shipments." Different types of
containers in the same car. And this, too,
we had to work out for all types of freight
cars and all probable combinations of
containers that would be loaded in them.

To keep ourselves from getting dizzy,
we wrote down all the different methods

of stowing and bracing containers. When
we got through, we had two, good-sized
volumes . . . each about as heavy and as
thick as a New York or Chicago tele-
phone directory.

But all this was "theory" and, not
content with it, we tested it out in sample
freight cars with sample loadings at our
switching yards.



There, day after day, the railroad
butted these sample cars around. Gave
them far more jouncing than they'd ever
get in actual transit. And only when a
car came through this practical "billy
goat" test with flying colors, would we
O.K. the stowing and bracing method as
"sufficient."

Today, American Can customers have
a minimum of headaches from shipments
arriving at their warehouses in less than
perfect condition. *American Can Company,
230 Park Avenue, New York, N. Y.*

Other "Plus's" American Can Offers To Its Customers

- 5 laboratories employing 134 people with college training, academic, or professional degrees in the pure, natural, or engineering sciences.
- 13 points from which customers' machinery is serviced . . . 6 points at which customers' machinery is built.
- 67 plants located strategically in the U. S., Canada, and Hawaii.
- A factory-trained sales staff who are specialists in many different types of industry.
- An executive personnel backed by a financial strength that is in itself a tangible business asset.

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.



PHOENIX CONE TOP CAN: A container whose all 'round advantages have won for it a prominent place in the packaging sun. Made round for greater strength . . . for easier handling . . . for better appearance. And usually found 'round wherever liquid chemicals are packaged or sold.

PHOENIX METAL CAP CO.
CHICAGO BROOKLYN

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Modern Packaging

AUGUST 1941

VOLUME 14 NUMBER 12



UNITED AIRLINES

SEPTEMBER

Are you keeping up with exciting new developments in corrugated and solid fibre packaging? Would your product have greater appeal to dealers, to consumers in one of these colorfully printed modern corrugated factory pre-packs? Could you save time and money with such packaging? Give your product added protection? Read what the leaders in this field are doing in the September issue of Modern Packaging.

And don't miss the National Safety Council's findings on lost-time accidents. Also in the September issue.

WALTER S. ROSS, Promotion
L. B. CHAPPELL, Los Angeles

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71

31

35

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42

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68

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THEY ALL KEEP BETTER . . . AND SELL



BETTER . . . in PLIOFILM

THE list of foods now packaged in *Pliofilm* is growing by leaps and bounds. Above you see only a few of the staples that reach the market fresh, tasty, appetizing—and stay that way, thanks to this eye-appealing transparent material that keeps moisture in—or out! The result is bigger, faster sales—with lower packaging cost. To give your product the benefit of *Pliofilm*'s complete protection, write *Pliofilm* Sales Department, Goodyear, Akron, Ohio.

Users of approved Pliofilm packages are entitled to use this nationally advertised seal known to millions as a guarantee of quality.



Pliofilm—T.M. The Goodyear Tire & Rubber Company

I HAD NO SHOES AND
COMPLAINED - UNTIL
I MET A MAN WHO
HAD NO FEET.

Arabian Proverb

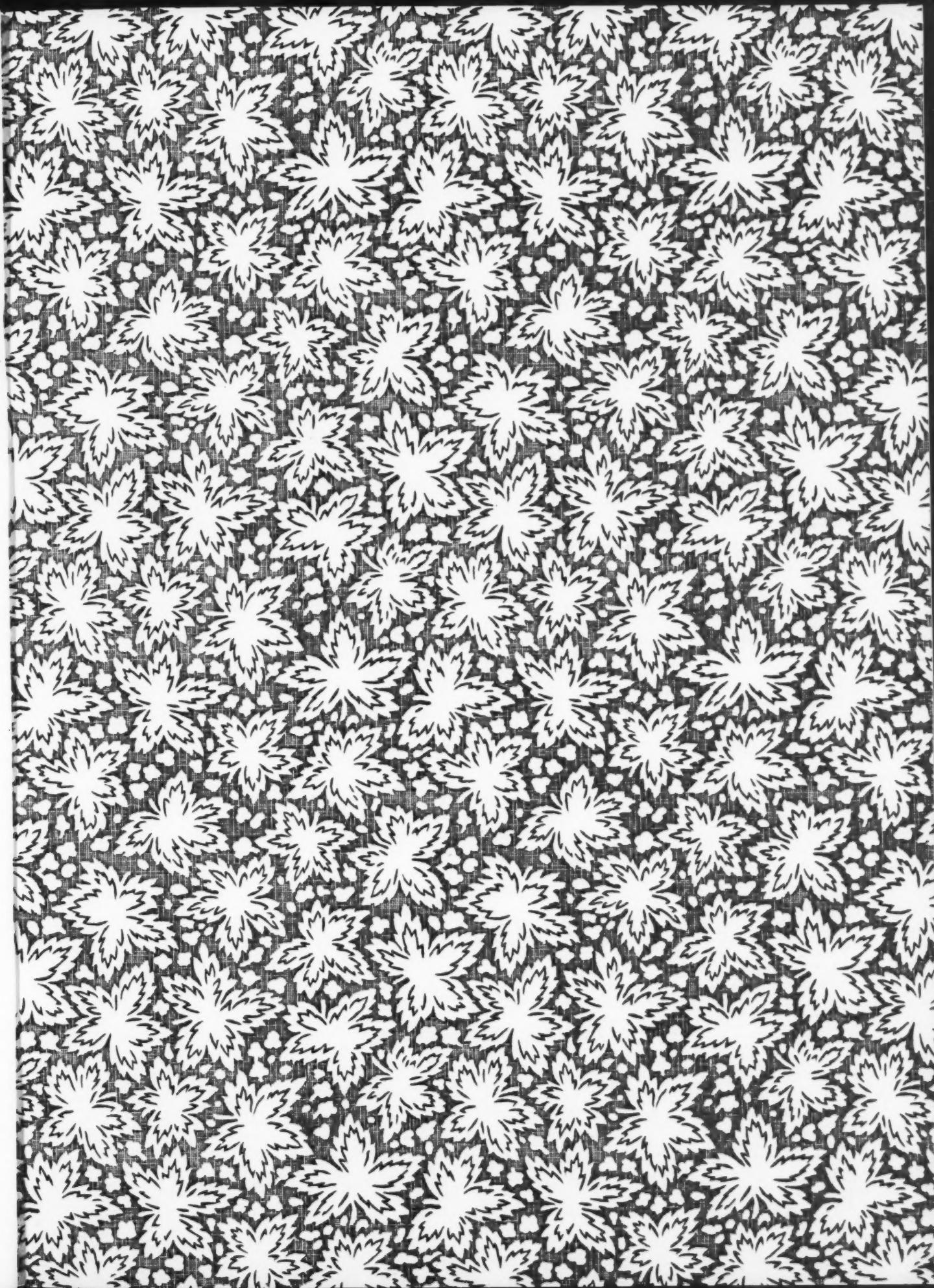
Another good thought passed on by the makers of

KVP

FOOD PROTECTION
PAPERS



KALAMAZOO VEGETABLE PARCHMENT COMPANY
PARCHMENT KALAMAZOO MICHIGAN



Popular Brocade — P. E. 284

The latest up to the minute box covering is this maple leaf Popular Brocade. In styling, what could be more attractive than a leaf covered box and in colors that only nature can match. Send for the set of work sheets, in gorgeous color treatments, which awaits your call - and see for yourself how well this leaf covering looks on your box.

Write to

Hampden

GLAZED PAPER AND CARD COMPANY

Holyoke, Massachusetts

SALES REPRESENTATIVES

Chicago, Ill. — 500 So. Peoria St.

Philadelphia, Pa. — 414 Bourse Bldg.

New York, N. Y. — 60 East 42nd St.

San Francisco, Calif. — 420 Market St.

Toronto, Canada — 137 Wellington St. West

Fred'k. Johnson & Co., Limited — 234, Upper Thames Street — London, E. C. 4, England

Seattle, Wash. — 1203 Western Ave.

Dallas, Texas — 3905 Amherst Ave.



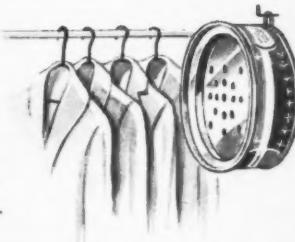
It takes the help of a "top" partner to put this dance team across... And in these highflying, showmanship days it takes the help of the right package to put a good product across, too. Sefton engineering and designing talent have played no small part as directors in creating package designs for many outstanding manufacturers in the food, drug, cosmetic and automotive parts industries.

The Stack-Top can for display convenience, the Pliofilm can for added product protection, the Seal Fibre Container for automotive parts, and the String-Pull can for ease in opening are all Sefton creations.

For greater economy, speedier service and helpful packaging suggestions, bring your packaging problems to Sefton. Phone or write for full details.

To be Star Performers
Both
MUST BE GOOD
Your
PRODUCT and
Your
PACKAGE

As Packed and
Merchandised by
THE PURO CO., INC.
ST. LOUIS, MO.



SEFTON FIBRE CAN COMPANY

Plants — St. Louis, Missouri • New Iberia, Louisiana

DISTRICT OFFICES:

New Orleans	Boston	Los Angeles	Detroit	Kansas City	San Francisco	St. Paul	Denver	Omaha	Tampa	New York	Chicago	Cincinnati	Des Moines
Oklahoma City	Pittsburgh	Memphis		Nashville			Dallas	Houston			Chicago	Salt Lake City	Cleveland
											Seattle		

ARMSTRONG APPLIES A



Designed FOR FEMININE HANDS



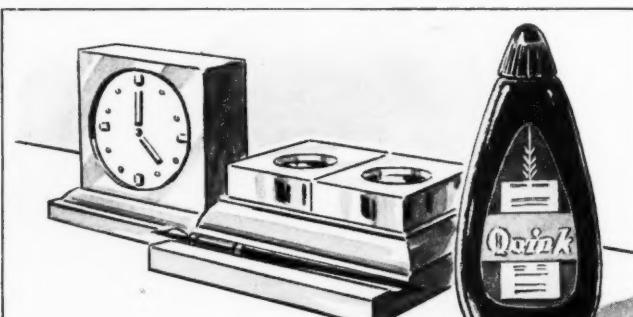
HUMAN RESEARCH FINDING NO. 1: Feminine users complained that bottles in use were cumbersome, heavy, hard for their fingers to hold. Accidents were frequent. So Armstrong designed a tapered, nonslip bottle with a corrugated finger groove.

HERE'S how Human Research works to design better glass packages and closures. Applied to the creation of these Parker Pen Company containers, it found that almost all pint and quart size ink bottles are handled by girls. Then it asked, "What kind of girls?" The answer stenographers and secretaries and clerks in offices and institutions. Then Human Research learned what these girls liked and disliked about ink bottles already in use, and what they'd like to have if they could design one themselves. We believe this is the one approach to package design that is sure to give the people who will use your merchandise the package *they've* long been looking for.

FOR FEMININE HANDS



HUMAN RESEARCH FINDING NO. 2: Old style bottle caps were often small and hard to remove and replace. Armstrong's answer to this, a tall, easy-to-turn Artmold cap, because molded caps are easier to handle and step up appearance as well.



HUMAN RESEARCH FINDING NO. 3: That the poor appearance of old-fashioned bottles kept them out of sight, usually in some hard-to-reach corner. So the new Quink packages have beauty. You'll see them on tables and desks, handy every moment.



HUMAN RESEARCH FINDING NO. 4: Few girls knew what kind of ink the boss bought, because one bottle looked pretty much like another. Not so with the new bottle. It's so unique it fairly shouts "Quink"—Parker's "Quink" and nothing else.

S HUMAN RESEARCH



The success of these "Quink" packages brought Armstrong the job of designing the new "51" bottles for Parker Pen Company, Janesville, Wisconsin. A low center of gravity and sure-grip shape minimize tipping accidents.

HUMAN Research is only one phase of Armstrong's services in the design and production of glass packages. At your disposal are successful experience in solving handling and production problems; 81-year-old facilities for recommending and supplying the right closure for your product; excellent equipment and competent personnel which guarantee you top quality in material, workmanship, and service. We may be able to increase your sales by applying this combination to your packaging questions. Write Armstrong Cork Company, Glass and Closure Division, 916 Arch Street, Lancaster, Pennsylvania.



ARMSTRONG
IS GLASS PACKAGING
HEADQUARTERS

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LIES FLAT DURING AND AFTER GLUING

Box-makers must have a box wrap that *lies flat* from the time the glue is put on, all through the box-making. It's surprising how few papers will do it. Snowwhite-Stiktite does because Fitchburg has specialized in this field.

STAYS FLAT WITHOUT CURLING

Curling of stock, or not taking the glue properly, can cause more grief than all the rest of box-making put together. Snowwhite-Stiktite lies flat and stays flat.

STICKS TIGHT WITH EVEN COVERAGE

Snowwhite-Stiktite takes the glue so evenly that the finished boxes never show blotches, bubbles, wrinkles or blisters.

Even coverage is assured whether the box wrap is combined with chipboard in rolls or wrapped around the set-up box. Snowwhite-Stiktite also withstands handling, dirt and marking both during and after box-making.

FOLDS WITHOUT BREAKING

It's a terrific strain on a box wrap to glue it flat and then bend it around a right-angle scored corner. Fitchburg Snowwhite-Stiktite can certainly *take it!*

GREAT OPACITY AND BRILLIANCY ON CHIPBOARD

The final test of any box wrap is how it looks on the finished box. Snowwhite-Stiktite gives the desired opacity plus a pleasing and uniform brilliancy, and the surface feels as smooth as it looks.

PRINTABILITY

From simple trademarks to all-over box designs, you will find the printability of Snowwhite-Stiktite thoroughly satisfactory.

Fitchburg Paper Company, Fitchburg, Mass.



INVISIBLE ARMOR



Hickok Belt and Pioneer Suspender window boxes laminated by Shellmar Products Co., Mt. Vernon, Ohio. L'Adonna Powder Box Laminated and L'Adonna Gift Set Package Laminated (both inside and out) by Lamcote Division, Arvey Corp., Chicago, Ill.

ANY one of the packages pictured here could be doused with water, smothered in dust, or even smeared with grease—and then restored to brilliance immediately simply by wiping it off!

The invisible armor is a pre-formed sheet of sparkling Lumarith Protectoid—fused to the surface of the package with a clear, transparent adhesive. Lamination is the name of the process—and there is no comparable substitute.

Packages laminated with Lumarith Protectoid delight the eye and fascinate the touch. They are scuff-proof, water-tight, and almost unbelievably durable in storage, transportation, and display. Fold strength is dozens of times greater than unlaminated stock.

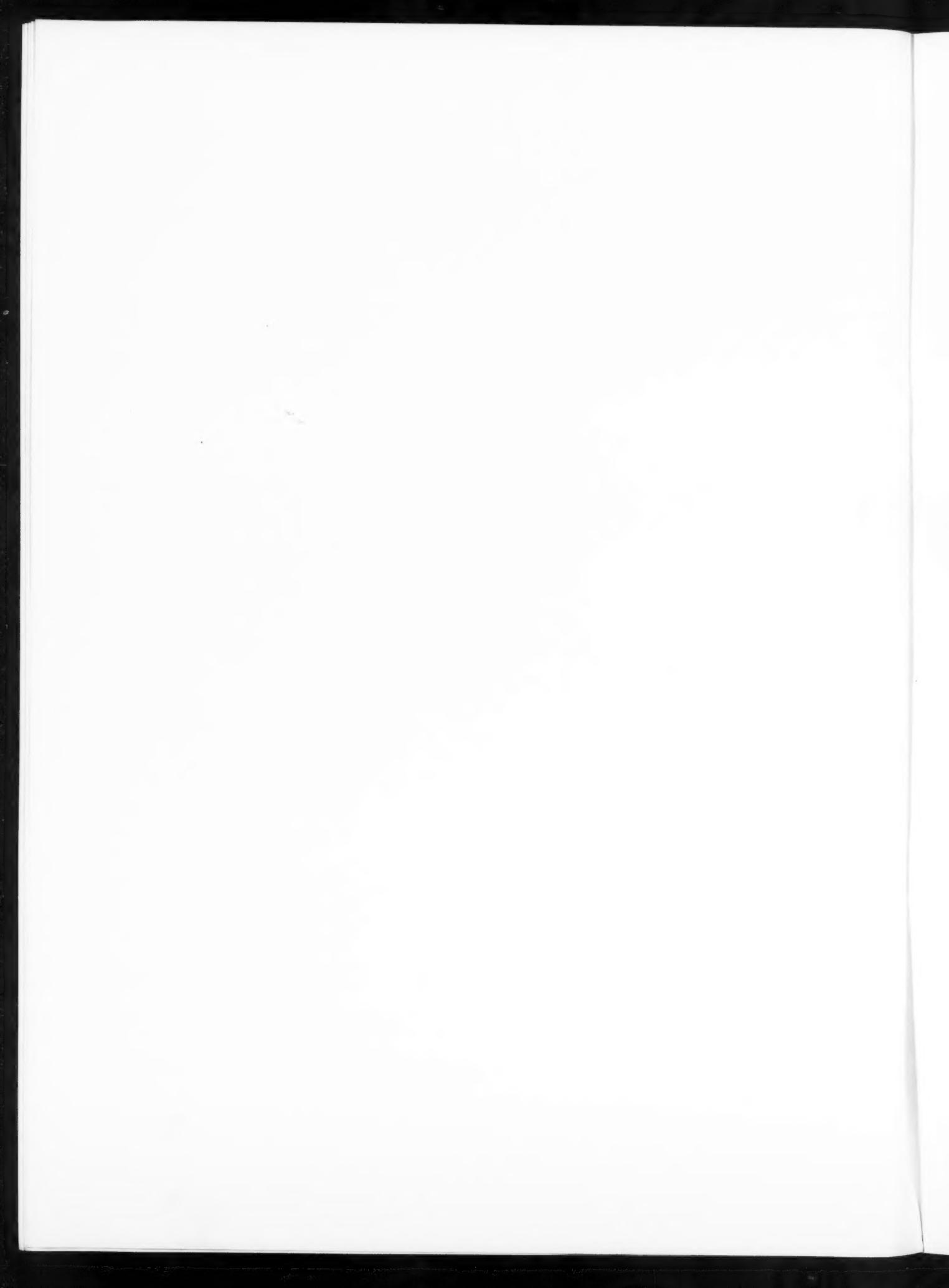
Lamination proved so successful in the packaging field that it was only another step to the modern

laminated window carton. Lamination is also an important factor on book covers, gift wraps, display counter cards, and dozens of other applications—even industrial uses including electrical insulation.

If you are interested in lamination—get in touch with Celluloid. We will give you full information concerning sources of supply for any type of lamination. *Packaging Division, CELLULOID CORPORATION, 180 Madison Avenue, New York, N. Y. Established 1872. Sole Producer of Celluloid, Lumarith, and Lumarith Protectoid. (Trademarks Reg. U. S. Pat. Off.)*

If you are working on a transparent or plastic package . . .

*Get in touch with
CELLULOID*
*also Headquarters
for PLASTICS*





HOW TO BRING YOUR BRAND OUT IN THE OPEN



IN THE STORE

Retailers from coast to coast know the popularity of Federal servers and sprayers. These functional closures of bright metal and colorful plastics have built millions of sales for many nationally famous products in the food, toiletry and household specialty fields. Retailers know that it's only good sense to put Federal topped products out in the open to help build their sales.

IN THE HOME

Because Federal closures turn sales packages into dispensing packages, your product's name is kept constantly before consumer eyes. Your food package, brand name and all, will go straight from the retail counter to the table because of its Federal server top. Your household specialty or cosmetic is used direct from the bottle it was sold in. And so, when the product is used up, it's only natural that the original article be re-bought.

Federal **TOOL CORPORATION**
400 NORTH LEAVITT STREET • CHICAGO, ILLINOIS



Duraglas

TRADE MARK REG. U. S. PAT. OFF.

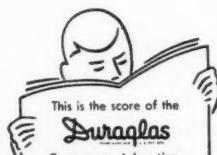
Exclusive Development of
OWENS ILLINOIS
GLASS COMPANY

GLASS COMPANY



The CLUE

to the Changing



This is the score of the

Duraglas

Consumer Advertisements working for YOU
UP TO THIS MONTH - 81,694,663
THIS MONTH - 87,810,650



Pantry

Duraglas packages are the clue to this change. And common sense tells why. Duraglas containers eliminate grab-bag buying. They're easy to open, to hold and pour from. They serve as their own refrigerator jars for "left-overs."

In the top-flight consumer magazines, America's Number One news spot for food trends, millions of housewives are reading about Duraglas. This revolutionary glassmaking technique has lifted glass containers out of the luxury class—made them fully available for food packaging without price premium.

Duraglas Will Help Your Product "Make Good" in Today's Pantry Line-up

The Duraglas standard gives you glass containers which have greater durability and strength—a strength that sweeps away excess container-weight. The low weight and strength of one-trip Duraglas containers cuts handling and shipping costs. In the case of returnable glass containers for milk, beverages, beer, etc., Duraglas delivers longer life and lower trip costs.

Ask an O-I representative about our *Complete Salespackaging Service*. We supply Duraglas containers, metal or Lustrseal molded caps and corrugated shipping cartons. Owens-Illinois Glass Company, Toledo.

YOUR PRODUCT WINS EXTRA ATTENTION WHEN SEALED WITH "CEL-O-SEAL"

► The extra color of a "Cel-O-Seal" cellulose band makes customers *notice* your package and thereby helps win extra sales for you. These bands are trim and sleek-looking . . . modern to the last degree—the perfect finishing touch to round out a well-designed and attractively bottled product.

Yet they do more than add good looks. They also help win greater consumer respect, for a "Cel-O-Seal" band indicates careful packaging—safe, efficient sealing—protection of the contents—and added sanitary protection. You get all these advantages for a fraction of a cent. May we design a colorful "Cel-O-Seal" band for your product?

*Products illustrated manufactured by
EIMER & AMEND, New York City*



BUSINESS AS USUAL

NO!

Many manufacturers have discovered that the slogan, "Business as Usual," contains more wishful thinking than fact. Unfortunately, business is not "as usual." For some it has already changed in kaleidoscopic fashion, but most of us in the packaging field—users and suppliers—are still able to make necessary adjustments of our requirements in a gradual and carefully planned manner.

We feel these changes will frequently bring better and more economical packaging to those who have prepared themselves in advance. To this end our technicians have been laboring long and hard. They have solved many problems—many remain to be solved—but we feel that somewhere in our line of 230 special papers and in our most recent research may lie the solution to your changing requirements. Won't you write us today?

RIEGEL PAPERS

RIEGEL PAPER CORP., 342 MADISON AVE., NEW YORK

FOILS? GLASS?
BAGS? WRAPPERS?
CARTONS? CANS?

PACKAGE for
APPEARANCE,
PROTECTION,
PRODUCTION
and ECONOMY
with
RIEGEL
PAPERS



Now mother's helpers really help

When Mother sends her little helpers to the refrigerator or pantry for canned goods she knows that the contents of any modern can are wholesome, tasty, good for her entire family.

She knows this—but she is inevitably influenced when shopping by the appearance of the container. If the tin plate's bright, lustrous, has plenty of sparkle, it will catch her eye sooner, flash a message of quality within.

Made by Bethlehem Steel Company, BethColite is thoroughly modern tin plate,

provides maximum shelf appeal plus maximum protection to its contents. This extra protection is the result of its greater ductility and uniformity of gage, temper and tin coating. These are the factors that assure safer deep drawing, easier forming, and tighter, hermetical seams.

BethColite is adaptable to many products—food, tobacco, cosmetics—even to the cap on milk bottles as in the picture above. Your container maker can supply you with cans and jar and bottle caps made of BethColite.

000000 **Bethcolite**

COLD-REDUCED TIN PLATE MADE BY

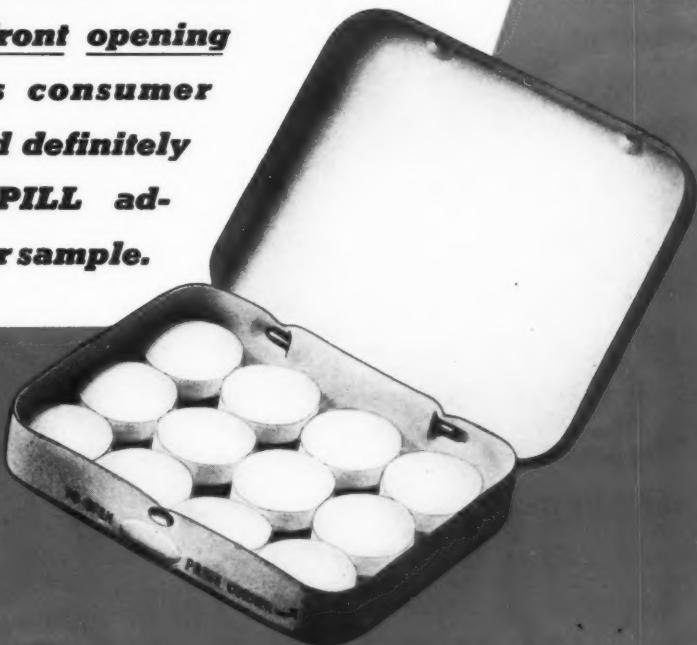


"NATIONAL CAN"



Packaging..
**Again Contributes to
PRODUCT LEADERSHIP!**

**This EZY-OPENING Tablet Box features
the "NATIONAL CAN"
principle of front opening
which assures consumer
convenience and definitely
practical **NON-SPILL** ad-
vantages. • Write for sample.**



NATIONAL CAN CORPORATION

EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK CITY

Sales Offices and Plants • NEW YORK CITY • BALTIMORE • MASPETH, N.Y. • CHICAGO • BOSTON • DETROIT • HAMILTON, OHIO

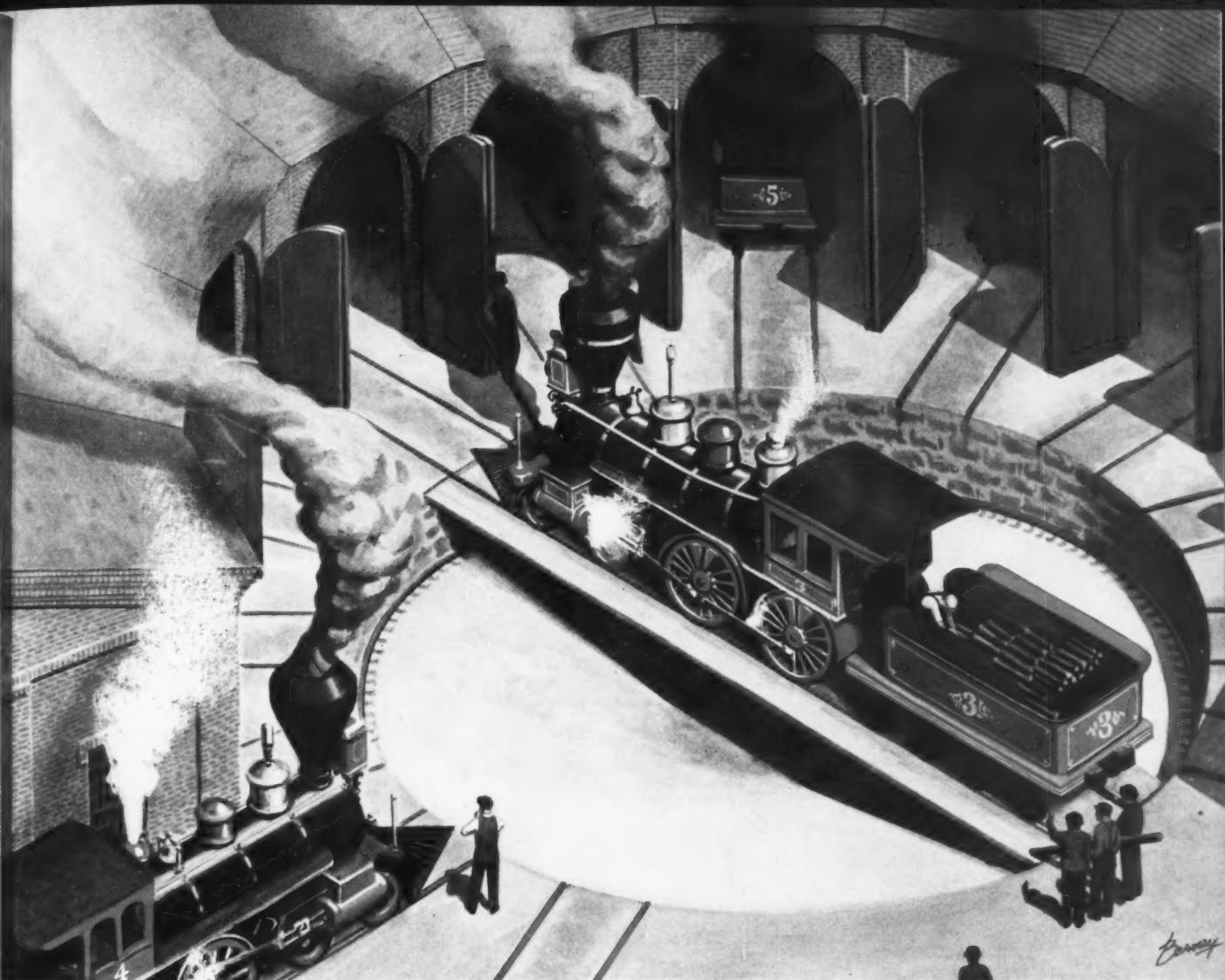


"PACKAGE" YOUR DELIVERIES by **WESTERN UNION**

After packaging your product, "package" its delivery. It deserves it. Make that first impression of your product count. Deliver it by Western Union messenger.

Place your sample in the hands of **CONSUMERS**, **DEALERS** or the **PROFESSIONAL** man...by impressive, dependable and economical messenger delivery. In one city or nationwide. Ask the nearest Western Union manager for details.

WESTERN UNION
Distribution Service



The package with the one-track mind

ONCE upon a time a railroad owner had a packaging problem. He owned a lot of locomotives. Bright red, handsome things they were in those days, trimmed all over with shiny brass.

Naturally, he didn't like leaving these fancy "Iron Horses" just standing around in the open all the time. He wanted them protected, under cover, when they weren't chugging about on business.

So he had a roundhouse invented.

It had plenty of space for his engines.

And many tracks. But one track in this new "package" was more important than all the others. That was the track in the middle. It had a turntable that always put the locomotives on the right track, whether they were coming in or going out.

When it comes to helping manufacturers get on the right track to good packaging, Continental's experts have a one-track mind. Their sole aim is to provide our customers with the best possible container for the lowest possible cost.

In developing the right package for any product, they consider style, size, and shape. They study color and typography. They make sure the container is convenient for consumers, economical to produce, easy to fill, pack, ship, sell, and use.

Continental has been helping businessmen to solve packaging problems for the last 36 years. Our long experience, our well equipped laboratories, and our trained personnel are always at your service.

Can we help you solve *your* problems?

CONTINENTAL CAN COMPANY

New York

Chicago

San Francisco

Montreal

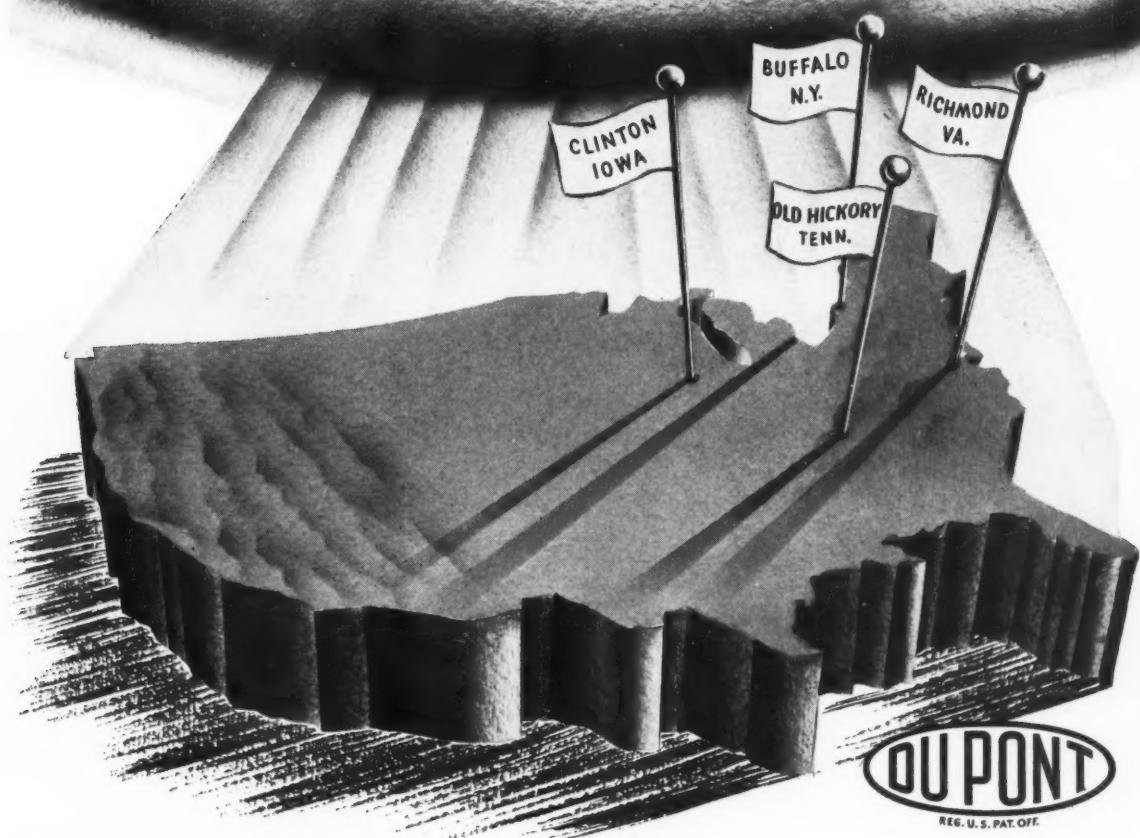
Toronto

Havana

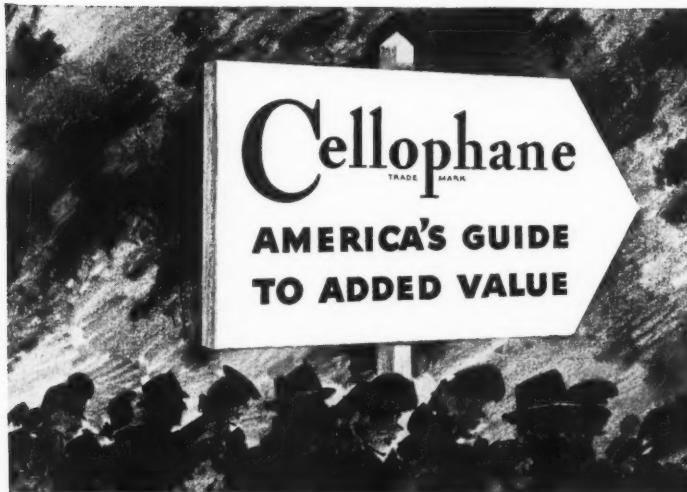


4 great plants **SUPPLY**

AMERICA'S DEMAND FOR "CELLOPHANE"!



DU PONT
REG. U. S. PAT. OFF.



- Consumer preference for the sanitary protection that "Cellophane" cellulose film provides has grown to such an extent that Du Pont now operates four great plants to make the endless miles of this sparkling transparent film. America's first "Cellophane" plant was opened by Du Pont in Buffalo in 1924. One by one, three others were built in strategic locations so as to provide the best possible service to users throughout the nation. The manufacturing skill of Du Pont is reflected in every pound of "Cellophane" that comes from these plants to package your product.

"CELLOPHANE" IS A TRADE-MARK OF E. I. DU PONT DE NEMOURS & CO. (INC.), WILMINGTON, DEL.

YOUR PRODUCTS CAN BE THEIR OWN BEST SALESMEN...



The colorful eye or appetite appeal of the products listed can compel more favorable attention and win more impulse sales—likewise more sales away from competitors, than ten thousand of the most carefully chosen words, the most beautiful and expensive of lithographed labels or even a penny or two saving. Why hide their irresistible appeal in opaque containers?...Why not pack them in sparkling glass containers where they will sell themselves?

THE CHANGE TO GLASS usually means no more than the fraction of a penny on the retail price of your product. In some cases, the glass package even costs less than other less convenient, less practical containers. And glass

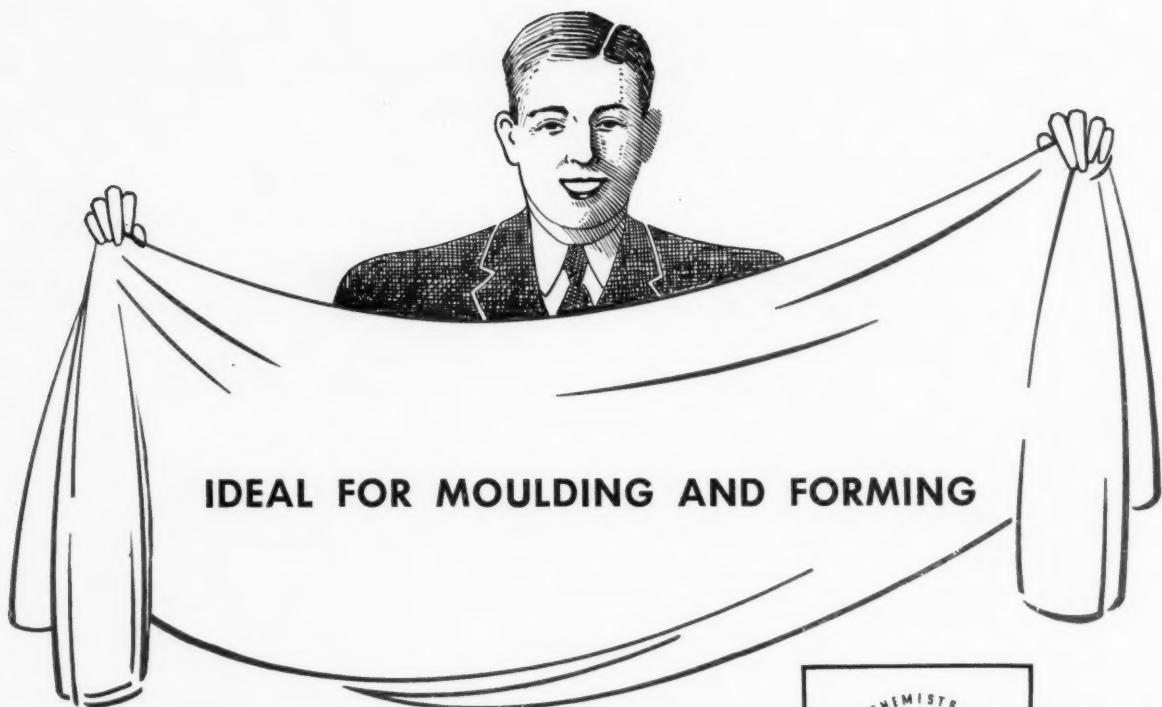
packed food command better retail prices, allow a higher margin of profit. The switch to glass will revitalize your entire selling set-up, open up new outlets, broaden your market, score new highs in sales and profits.

•WILL YOU ACCEPT THIS OFFER?

Send us two of your packages. Without cost or obligation we'll repack your product in a sparkling, shapely Anchor Hocking Glass Package with an appropriate closure and ship back to you with all information.



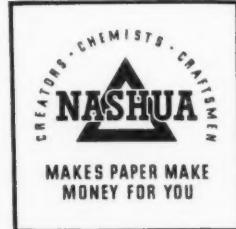




IDEAL FOR MOULDING AND FORMING

Nashua

CREPE VELOUR PAPERS



THE SOFTNESS AND FLEXIBILITY of Nashua Crepe Velour make these papers excellently adapted to moulding and forming so they can be used to advantage in packaging where formerly more expensive cloth materials were necessary.

Note the cloth-like texture, depth and richness of coloring and soft pliability of the samples swatched on this sheet.

The background paper is also worth your attention. It is the NEW Coral pattern embossed on the NEW No. 6 Silfoil.

These attractive papers will help sell your products --- make paper make money for you! All are carried in stock. • • • Write for complete set of samples.

NASHUA GUMMED AND COATED PAPER COMPANY

DEPT. M-8, NASHUA, NEW HAMPSHIRE

Look for the Triangle NASHUA Sign of a Nashua Value

Why more Fish are Caught on Weezels



CATCH MORE CUSTOMERS FOR YOUR PRODUCT
WITH A TRANSPARENT PACKAGE BY RITCHIE

The more your product is displayed, the more it sells. A Transparent Package by Ritchie creates display value and wins dealer cooperation. The more people see your product, the more they buy it. Your product shows to the best possible advantage in a Transparent Package by Ritchie—and yet cannot be handled or soiled. Ask Ritchie to tell you all about Transparent Packaging—how versatile and effective it really is and how little it can cost. Write today!



FREE: Ritchie's 75th Anniversary Booklet, a colorful 16-page review of the Company's background and present facilities. Many interesting packaging applications. Write for your copy now.

No, the way the bait is packaged doesn't make any difference to the fish. But it does to the fisherman! That's why smart retailers are displaying Weezel bait in this eye-catching Transparent Package by Ritchie. They know fishermen can't resist stopping, looking and buying!



W. C. Ritchie
AND COMPANY

8848 BALTIMORE AVENUE • CHICAGO

NEW YORK

DETROIT

LOS ANGELES

ST. LOUIS

MINNEAPOLIS

DENVER

MIAMI

MUNDET CLOSURES

- aid the sale of your product by giving smart distinction to the package.
- aid the customer in his use of your product by insuring quick, easy opening and resealing.
- aid you to retain and increase good will by preserving the quality you put into your product.



These Mundet offices and representatives are conveniently located to serve you.

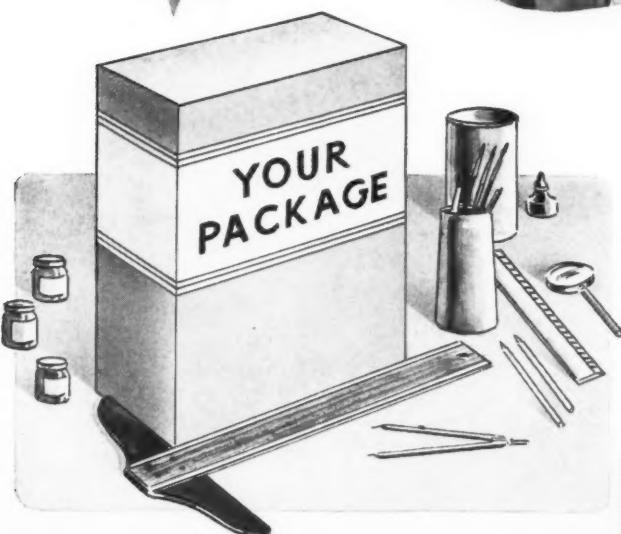
ATLANTA
339-41 Elizabeth St., N. E.
CHICAGO
2959 N. Paulina St.
CINCINNATI
427 W. 4th St.
CLEVELAND
Britten Terminal, Inc.
DALLAS
505 Southland Annex
DENVER
The Stone-Hall Co.
DETROIT
335 W. Jefferson Ave.
HOUSTON
Commerce & Palmer Sts.
JACKSONVILLE, FLA.
Laney & Delcher Warehouse
KANSAS CITY, MO.
1428 St. Louis Ave.
LOS ANGELES
1850 N. Main St.
LOUISVILLE
Kentucky Bottlers Supply Co.
MEMPHIS
Memphis Bonded
Warehouse
NEW ORLEANS
432 No. Peters St.
PHILADELPHIA
2226 Arch St.
ST. LOUIS
2415 S. Third St.
SAN FRANCISCO
440 Brannan St.
Also J. C. Millett Co.
In Canada
Mundet Cork & Insulation,
Ltd.
35 Booth Ave., Toronto

STYLE AND UTILITY IN CLOSURES

Mundet Molded Top Closures are "tops," both in appearance and service. Result of precision manufacture by an organization that has made fine Closures for three-quarters of a century. While decorative, these modern closures assure workmanlike action . . . seal smoothly and securely with the efficiency of cork. Unseal promptly without inciting violence. The non-skid, ribbed flange assists in the effortless use of your product. The extra-clear embossing is due to Mundet's deep molding process. It permits the reproduction of your trademark or decoration with unusual fidelity. Many of our customers use the stock design shown above, offered in standard sizes, in black or in colors. It permits freshening up the product-container at minimum cost. Mundet Cork Corporation, Closure Division, 65 S. Eleventh Street, Brooklyn, N. Y.

MUNDET Closures

Packages NEED A "PHYSICAL" CHECK-UP TOO!



UNCLE SAM takes no chances with the men who join his army . . . and successful manufacturers take no chances on the packages that must go out on the firing line and do a selling job. Many of America's leading packages received their "physical" in Sutherland's "recruiting office". Here, talented artists and expert engineers analyze weaknesses, revamp designs, and improve construction to provide packages with sufficient strength for victory in the battle for sales.

If you're interested in making a thorough check of your package design, send today for Sutherland's checking chart. There is no cost or obligation.



Sutherland PAPER
COMPANY
KALAMAZOO, MICHIGAN

THAT'S OUR ADVERTISING MEASURING STICK

Yes, it's blank. We don't measure the total power of our advertising through the number of inquiries, alone. Sure, we like them, as many as we can get. But we feel that advertising in magazines that are read and liked by our customers has infinitely more value for us than that.

Here's what I mean: our salesmen call on hundreds of people, but our advertisements reach thousands through the pages of such well-read magazines as *Modern Packaging*. The reason I mention readership so emphatically is because so few magazines have it—and because it is so essential to the success of the finest campaign.

Our advertising is to prepare our markets. It opens doors to our salesmen, stimulates interest in our product. It reflects our company policies, is a sort of mirror for our personality. It does all these things, to our best prospects.

We're sold on advertising, all right. With us, it's just a question of choosing the proper media. *Modern Packaging* has proved its right to a consistent place on our schedule.

MODERN PACKAGING
122 East 42nd Street New York, N. Y.







New Patriotic Papers

We have just brought out several new timely patterns which will be much sought after. They are appropriate for both holiday and staple packing. Your customers will applaud and appreciate them.

Want samples or sample sheets?



Royal Paper Corporation

Manufacturers of Decorative Papers

ELEVENTH AVENUE AND TWENTY-FIFTH STREET
NEW YORK, N. Y.



This Sample Pattern 644-1 White Wove Base



KIMBLE Moulded CONTAINERS

Individualized TO YOUR OWN PRODUCT

A DISTINCTIVE INNOVATION
IN FINE MOULDED BOTTLES

DESIGNED AND MADE TO
YOUR OWN SPECIFICATIONS



For A NEW VERSION OF YOUR OLD PACKAGE
A RAPID ACCEPTANCE OF YOUR NEW PRODUCT

Consult
Kimble



• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY • • • VINELAND, N. J.

NEW YORK • PHILADELPHIA • DETROIT • CHICAGO
BOSTON • INDIANAPOLIS

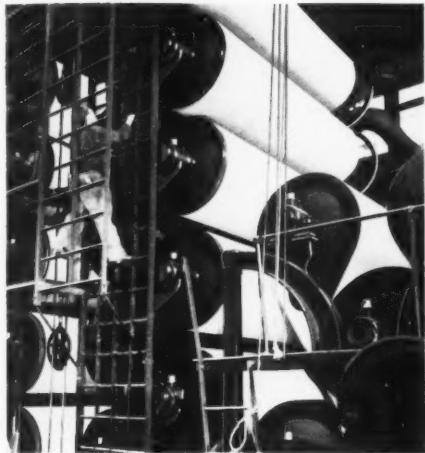
WE TOSSSED OLD

... to produce a



IDEAS OUT THE WINDOW

**revolutionary new coated boxboard
to meet today's needs**



NEVER BEFORE has there been a boxboard like Coated Lithwite... for it is formed, made and coated on one machine... in one continuous operation. It's a revolutionary and exclusive high-speed process that brings important advantages to America's folding carton users.



FINER PRINTING SURFACE! Hold a Coated Lithwite carton up to the light... notice the even lay and brilliance of the inks. Solids... free from greying. Half-tones and type... crisp and clean. Coated Lithwite's satin-smooth surface is a great scientific step forward.



GREATER ECONOMY! Coated Lithwite costs no more than many uncoated boards because of Gardner-Richardson's machine-coating process. And Coated Lithwite saves in the high-speed automatic filling and sealing machines, too. The mineral coating is highly receptive to glue... takes a tight, sure seal!

FINER FOLDING CARTONS AT A SAVING — or at no increase in cost! That advantage may be yours with *Coated* Lithwite... and certainly today that possibility is worth your investigation. See for yourself... quickly, easily. Just send us a set of your original carton engravings. We'll prove them on *Coated* Lithwite so you can make a side-by-side comparison with the cartons you are now using. Or, if you wish, we'll send you a packet of *Coated* Lithwite cartons so you can discover their finer qualities right at your own desk.

ATTENTION CARTON MAKERS!

Notice that Coated Lithwite has the look and feel of the finest dull-finish paper. Fold it. Score it. Notice the coating doesn't shatter. Have your ink supplier prove a few sheets in a variety of colors. You'll discover that Coated Lithwite can help you put more carton customers on your books... and keep them there!

The GARDNER-RICHARDSON Co.

MANUFACTURERS OF FOLDING CARTONS AND BOXBOARD
MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: Philadelphia • Cleveland •
Chicago • St. Louis • New York • Boston • Pittsburgh • Detroit



IN THE HOMES OF
AMERICA YOU FIND



You'll find Sylvania cellophane in homes all over the length and breadth of this land. You'll find it on farms and in cities, on dressing tables, in kitchens, almost every place you look.

You'll find Sylvania cellophane everywhere because it's used to wrap, to sell and preserve almost every type of product you can imagine: toothbrushes and bread, frozen fish and hot cheese, textiles and tobacco—and hundreds more. Sylvania cellophane has become accepted as a standard for cleanliness, sanitation and beauty by the consumers of America.

Copr. 1941, Sylvania Ind. Corp.

SYLVANIA INDUSTRIAL CORPORATION

Executive and Sales Offices: 122 E. 42nd Street, New York

Works: Fredericksburg, Va.

Branches or Representatives:

ATLANTA, GA..... 78 Marietta Street
BOSTON, MASS.... 201 Devonshire St.
CHICAGO, ILL.... 427 W. Randolph St.
DALLAS, TEX.... 812 Santa Fe Building
PHILA., PA.... 260 South Broad Street



Pacific Coast:

Blake, Moffitt & Towne
Offices & Warehouses in Principal Cities

Canada:

Victoria Paper & Twine Co., Ltd.
Toronto, Montreal, Halifax

"SYLVANIA" IS A REGISTERED TRADE MARK FOR CELLULOSE PRODUCTS MANUFACTURED BY SYLVANIA INDUSTRIAL CORPORATION

Reporting on the **ALUMINUM SEAL SITUATION**

"TIME OUT!" has been called by the OPM in Washington. For the present, no more Aluminum may be made for seals.

DEFENSE OF THE DEMOCRACIES demands every pound of Aluminum produced.

YOU CLOSURE USERS who have been sealing your packages with Alseco Aluminum Seals are grand people to give them up so understandingly.

TOUGH AS THIS RECESS IS on you, you are accepting RECESSITIES—Alseco Seals made of other materials—with scarcely a grumble about the change.

YOUR SACRIFICES, coupled with tremendous increases in production of new metal, make it possible for defense industries to get, *every month*, many millions of pounds of Aluminum

in excess of schedules set up a few months ago.

THIS TREMENDOUS PRODUCTION is already nearing *four times* the average production of the years 1930-38. And still more plants are being built and rushed into greater production.

YOU CAN READILY SEE what this will mean when the emergency is past and Aluminum can again be used for seals and other civilian purposes.

ALUMINUM WILL BE MORE PLENTIFUL than anyone ever dreamed it would become in so short a time.

LOOKING TOWARD THAT DAY, we are carrying on our research and development of Aluminum Seals and sealing machines to make them even more efficient, economical and attractive than ever before for sealing your products.



ALUMINUM SEAL COMPANY, 1345 THIRD AVENUE, NEW KENSINGTON, PA.
For 27 Years, Builders of Quality Seals and Sealing Machines



NEW TIMES NEW IDEAS

It takes more brains to make advertising and selling fit industry's needs now. Some men we know are doing it well. If you want to learn to use advertising more effectively, plan to swap ideas with other wide-awake men at the 1941 three day N.I.A.A. Conference in September at the Royal York Hotel, Toronto, Canada. A new setting, a thousand executives, and speakers of international reputation.

Make this note in your diary

**19th ANNUAL N.I.A.A. CONFERENCE
TORONTO, CANADA • SEPTEMBER 17, 18, 19**

NATIONAL INDUSTRIAL ADVERTISERS ASSOCIATION, INC.

100 EAST OHIO STREET

CHICAGO, ILLINOIS

Ribbonette . . .

REG. U. S. PAT. OFF.

for Every Season of the Year!

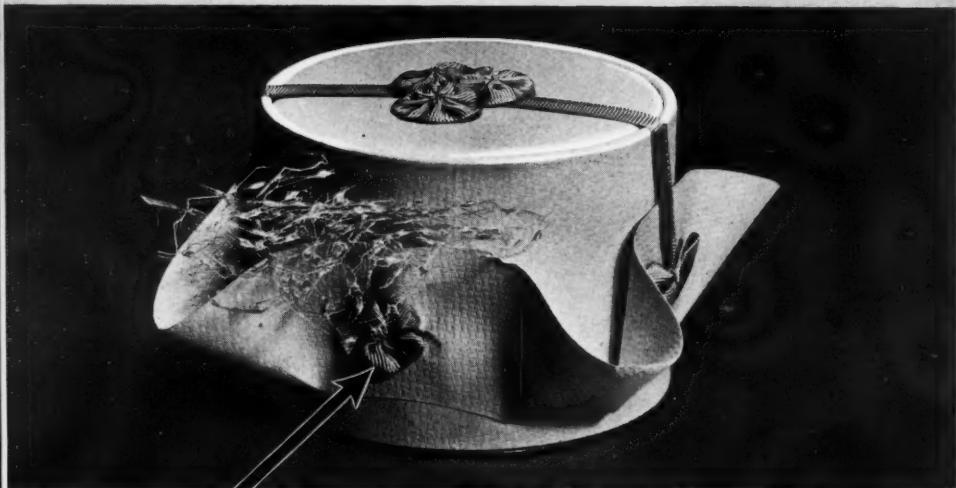


These are only a few of the many colors and patterns we carry in stock.

CHICAGO PRINTED STRING CO.
2319 Logan Blvd., Chicago

225 Fifth Ave., New York

Spark IN A POWDER BOX



Here's a sales spark in a bath-powder box. Shaped like a summer hat in pink and blue, it's held together neatly, securely by invisible Bostitch staples. Here's "art that conceals art" . . . a prize-worthy package that won't weaken or grow old before its time . . . proving: women and packages *both* need good make-up.

BOSTITCHING

For well-preserved packages,
schedules, and pocket-books

Using the right stapling, stitching, or tacking machine . . . right size and kind of staple . . . is often the way to get best packaging results. Call it "Bostitching" . . . for Bostitch makes world's largest variety of such machines and staples.

End cumbersome, costly hand methods, insecure fastenings that result in damaged packages. Cash in *immediately* by renting easy-to-operate Bostitch machines, or "pay as you profit" through liberal budget and trade-in plans. Write Bostitch, 53 Division St., East Greenwich, R. I.



SEND FOR FREE FOLDERS
"THE MODERN CARDING METHOD"
"BOSTITCH BAG SEALING"—Write Today!



BOSTITCH

fastens it better with wire —

GIVES YOU ALL THREE
IN ONE FASTENING METHOD

- 1. SALES APPEAL
- 2. PROTECTION
- 3. ECONOMY

Three "Musts"

for Moving Goods ON and OFF Retail Counters

1. *The right display.* Fitting the display to the product and to the retailers' requirements are both important factors. Fastening the product to some kind of card or background is a common solution—inspiring the retailer to show your product, providing space for selling message or instructions, and opportunity to group related items in one compact, sales-building unit.

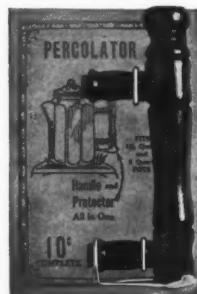
2. *The right fastening method . . .* should interfere as little as possible with the looks of the product, or visibility of the printed message. At the same time, it should discourage pilfering and hold firm against rough handling. Staples are gaining popularity, probably because the "Bostitching" method (named after the largest manufacturer of stapling machines) fills the above requirements more completely than more cumbersome or less dependable fastenings—sewing, gluing, rubber bands, etc.

3. *The right fastening equipment.* Choice of equipment generally depends on size and difficulty of the job, cost of machine compared with hand methods, and size of capital investment required.

Many manufacturers have solved difficult carding problems by adapting Bostitch machines to their needs, and a staff of 18 Bostitch engineers has helped them do it.

Others have saved as much as \$2000 per year in fastening alone, by eliminating unnecessary operations. Some firms, proceeding on a rental basis, have avoided capital investment entirely, while still others have taken advantage of liberal Bostitch trade-in and budget plans.

Over 300 Bostitch representatives, specializing exclusively on fastening problems, are available for consultation in more than 100 U. S., Canadian and other cities. For further information, write Bostitch, 53 Division St., East Greenwich, R. I.



Specially adapted Bostitch stapler quickly cards percolator handle, clinching between wood and metal . . . saves time and money by speedy, secure fastening in difficult spot.

Advertisement

Modern Packaging

AUGUST 1941

VOLUME 14

NUMBER 12

THE ELEVENTH ANNUAL ALL-AMERICA PACKAGE COMPETITION



Marked by Drastic Changes

As the time comes to announce the 1941 All-America Package Competition, the realization confronts us that the current year has brought problems never before faced in the history of packaging. During the past twenty years, which have witnessed the merchandising transition from bulk to unit consumer containers, packaging has made phenomenal progress. Those were years of peace for America. Now we are in the turmoil of an unlimited national emergency. Those peace years were marked by economic depression. Now a feverish inflated volume of industrial production tops all records. Then external glorification and striking use of materials played the stellar roles. Now functionalism, economy and material shortages dictate packaging practices.

For ten successful years, the All-America Package Competition has marked a constant forward movement, growing from a few hundred entries to well over a score of thousands. Heretofore, the classification of entries has been on the basis of the material used to fabricate the container. This was very properly the case, for only by emphasis on material could the packager and the consumer have been provided with the amazing variety in texture and form available. The All-America

Competition, progressing with packaging and contributing to its growth, has become a national institution and its administration a serious responsibility. Its sponsors, keenly aware of this responsibility, have concluded that the emphasis on material, which served its useful day, must now give way to a new principle of classification, namely, that of the products of an industry or a line of business.

This means that a cosmetic package, for example, will be submitted in comparison with all other cosmetic packages; the container for a household appliance or a food product will be compared with that of other products of the same class, regardless of the material from which the package may be made.

Obviously, this will permit more accurate appraisals on the part of the judges. It means, furthermore, that an award will have a greater significance within an industry. The new classification plan will be a long step forward, because above all it will lend new impetus to the value of packaging in serving the paramount needs of consumers in matters of convenience, economy, protection and esthetic appeal.

THE NEW 1941 CLASSIFICATIONS

Regardless of construction, type or material used, each entry in the 1941 All-America Packaging Competition will be judged "with its peers"—that is, with other packages from the

same industry or line of business. The classifications appearing below, compiled after careful study of previous years' entries, will be found quite comprehensive.

1. **BAKERY PRODUCTS**
Bread, cakes, fruit cakes, cookies, pies, etc.
2. **PROCESSED, PRESERVED & FROZEN FOODS**
Fruits and fruit juices, vegetables and all foods not otherwise classified.
3. **CONFECTIONERY**
Candy, candy bars, chewing gum, fruit and nut confections, etc.
4. **DAIRY PRODUCTS**
Milk and cream products, cheese, ice cream, butter, etc.
5. **GROCERIES**
Grocery items not specifically covered by the foregoing classifications, such as flour and grain products, tea, coffee, spices, cereals, dried fruits and vegetables, syrups, sugars, laundry soaps and cleansers, etc.
6. **MEAT PRODUCTS**
Fresh and cured meats, fish, etc., in packaged form—not including fresh frozen products.
7. **BEVERAGES**
Soft drinks, "mixers," beer, ale, etc.
8. **WINES & LIQUORS**
Fermented and distilled spirituous liquor, whiskeys, gins, brandies, cordials, etc.
9. **DRUGS, CHEMICALS & DRUG SUNDRIES**
Medicinal preparations, organic and inorganic compounds in packaged form, devices, such as clinical thermometers, hot water bottles, etc., proprietaries, patent medicines, etc.
10. **COSMETICS, TOILET PREPARATIONS & ARTICLES**
Facial creams, nail polishes, toilet soaps, perfumes, shaving creams, tooth pastes, manicure sets, combs, brushes, etc.
11. **HARDWARE**
Cutlery, tools, rope, nails, hose, garden equipment, screws, bolts, paint brushes, etc.
12. **HOUSEHOLD ARTICLES**
Electric toasters, irons, vacuum cleaners, radios, lighting equipment, tableware, etc.
13. **OILS, PAINTS & VARNISHES**
Furniture oils, lubricants, exterior and interior paints, floor finishes, etc.
14. **TOBACCO PRODUCTS & SMOKERS' ARTICLES**
Cigars, pipes, tobacco, cigarettes, lighters, cigar and cigarette holders and cases.
15. **TEXTILES & NOTIONS**
Towels, blankets, sheets, pillow cases, thread, yarns, buttons, white and dress goods—but no apparel articles.
16. **STATIONERY & SUPPLIES**
Office supplies, writing papers, office devices, pen and pencil sets, inks, etc.
17. **JEWELRY, SILVERWARE & PHOTOGRAPHY**
Clocks, watches, rings, cuff links, buckles, silverware, optical goods, cameras and accessories.
18. **TOYS, GAMES, SPORTING GOODS**
Including dolls, small musical instruments, etc.
19. **APPAREL**
Clothing, shoes, hosiery, underwear, belts, suspenders, garters, etc.
20. **WINDOW DISPLAYS**
Irrespective of type of material used if developed primarily for window displays.
21. **COUNTER & FLOOR DISPLAYS & DISPENSERS**
Cards, stands or dispensers, for use with or without product display, intended primarily for use on counters or store floors, irrespective of material used.
22. **SHIPPING CONTAINERS**
Irrespective of type of material used if designed primarily for use as a shipping container.
23. **MACHINERY & EQUIPMENT**
Individual machines or production lines (installed during 1941) for packaging and shipping operations. Submit detailed floor plans, photographs of installation, with sample of package or packages and detailed production data. (Correspondence is invited regarding this classification.)
24. **MISCELLANEOUS**
Obviously the foregoing classifications cannot be all-inclusive. Any package otherwise difficult to classify will be placed in this group for judgment on its merits, regardless of type, material or product.

The foregoing list, though very inclusive, must not be regarded as final or unalterable. If you find it difficult to classify a package which you wish to enter, make the entry without the classification. It will be put into the proper group on arrival.

As new needs arise, changes will be made. If warranted by the number of entries in any

category not listed above, a new classification may be formed. On the other hand, if circumstances justify, certain classifications may be combined.

The important point is: Write for entry blanks; make the entry, accompanied by all available information, especially answers to Questions No. 6 (or 7) and No. 8.

THE JUDGES

As in preceding years, a distinguished and competent group (three of whom have seen previous service) will judge the 1941 All-America Package Competition. Because of their richly diverse backgrounds, the composite verdicts will represent all elements—design considerations, production requirements, merchandising needs and consumer desires and convenience.



THE CONSUMER'S VIEWPOINT . . .

Important to all manufacturers and advertisers, was ably represented last year by "Judge" Anderson and we are happy that she has consented to serve again. Her background for the task: Director of Consumer Service Bureau, Parents' Magazine; formerly Assistant Woman's Editor of Country Home; graduate dietician, Peter Bent Brigham Hospital, Boston; degree in home economics, University of Toronto. Consideration of the consumer, logical objective of all packaging and merchandising, will be assured by the presence on the Board of Judges of BARBARA DALY ANDERSON.



THE MANUFACTURER'S VIEWPOINT . . .

To produce uniformly dependable goods and keep them moving out—that is the manufacturer's task. "Chief Justice" Bristol carries this responsibility for the Bristol-Myers Co. Activity in the Packaging Institute, of which he is past president, is another outlet for Bill's apparently boundless energy. For many years, too, he has set aside time out of a busy life to judge All-America Package Competitions and again this year he has consented to act. The manufacturer's viewpoint with all that it includes will be well represented by the broad perspective of WILLIAM M. BRISTOL, JR.



THE MARKETING VIEWPOINT . . .

The devious paths followed by merchandise of every kind as it travels from producer to consumer must be carefully considered in judging the All-America. "Judge" Hovde of the Wharton School of Finance and Commerce (University of Pennsylvania), President of the American Marketing Association, is widely known as a marketing consultant in many fields and is a brilliant writer and speaker on subjects relating to merchandising and advertising. The channels of marketing and the hazards to which packaged goods may be subjected from time to time are all familiar to DR. HOWARD T. HOVDE.



THE DESIGNER'S VIEWPOINT . . .

The approach to and solution of the design problem . . . colors, lettering, structure, arrangement of elements—these are some of the fundamentals of package design. "Judge" Nash knows the answers because he is more than a designer. To the problem of judging the All-America he brings a rich background of artistic experience, sales promotion and what he calls "pre-search." A catalog of his achievements—from spectacular signs on the Great White Way to modern cabinets for air conditioning and radio units—would require more space than is available. But to guarantee adequate consideration of principles of design-plus-sales effectiveness, it is merely necessary to mention the well known name of BEN NASH.



THE PACKAGE RESEARCH VIEWPOINT . . .

"There is more than meets the eye" behind every successful package. Careful study of materials and their functions, long hours of development work, exacting experiments as to structure must precede even preliminary recommendations before the problem goes to the designer. "Judge" Southwick's experience qualifies him to answer the questions, "What will it do?" "How will it work?" for he has been engaged in package engineering research for General Foods since 1930. He is an M. I. T. graduate, a technician, a painstaking and accurate writer on the scientific aspects of packaging materials. That all these important phases will be fully covered is assured by the name of C. A. SOUTHWICK, JR.



THE PRODUCTION VIEWPOINT . . .

Mass production, the answer to consumer demand for economy, requires fool-proof packages on the production line. This is a backstage requirement of which the consumer has little if any conception, but covers many vital points in good packaging. These, as well as the other more obvious elements of packaging, are known to the production man, especially if like "Judge" Webber he is responsible for package development and production operation in such an organization as Standard Brands, Inc. A director of the Packaging Institute, with many years' experience as judge of the All-America, full consideration of these valuable backstage elements among other things is made certain by election for another term of GEORGE R. WEBBER.

THE CONDITIONS

No set of formidable rules or prohibitive restrictions has ever surrounded the All-America. The conditions are as simple as it is possible to make them.

- 1. What May Be Entered:** Any package, display, merchandise dispenser or container, placed on the market during 1941, or illustrations of machinery for packaging or shipping operations, installed and in actual operation during 1941, may be entered in the Competition.
- 2. There Is No Entry Fee:** No charge of any sort whatever is made upon either entrants or prize winners. All expenses (except parcel post or other carrying charges) are borne by the sponsors.
- 3. Complete Packages Required:** All packages must be complete with merchandise. Packages and contents are to be sent to the sponsors of the Competition: Modern Packaging Magazine, 122 East 42nd St., New York City, where they are placed on exhibit at the Permanent Packaging Exhibit Hall, remaining the property of the sponsors of the Competition.
- 4. Returning Valuable Merchandise:** Arrangements for the return of valuable articles must be made at the time of entry, but the sponsors of the Competition cannot assume responsibility. Correspondence on this requested.
- 5. How To Make Entries:**
 - a. Write to Modern Packaging for as many entry blanks as you need; they will be sent promptly on request.
 - b. Fill *every* space on the blank, giving all information requested, especially in answer to Questions No. 6 (or 7) and No. 8. Omission of this pertinent information will disqualify an entry.
 - c. Completed entry blank MUST ACCOMPANY THE ENTRY.
 - d. Use one blank for each entry. (A group entered as a "family" requires only one entry blank.)
- 6. Who May Make Entries:** Entry may be made by designers of packages, containers, displays or machinery, by the manufacturers of such materials or equipment, or by the firms who sponsor the products for which such materials and equipment are made.
- 7. When Entries May Be Made:** Entries may be made now and until January 5, 1942—must be in our offices not later than that date, regardless of the postmarked date.
- 8. Number of Entries Permitted:** Any number of different packages, displays, machinery installations, etc., may be submitted by any firm or individual.
- 9. The Judging:** The judges (see preceding page) represent the viewpoints of consumers, advertisers, designers, packagers, etc. Their work is done immediately following the close of the Competition and results will be announced not later than the April 1942 issue of Modern Packaging.
- 10. The Awards:** In each classification no more than three awards will be given. All awards are of equal importance and are given to the company marketing the entry—the package, container, display or machine.

Certificates of merit will be presented to all those who contributed significantly to the creation and production of prize-winning entries.

As heretofore, certain entries may be cited by the judges for special awards in recognition of unusual character without regard to classification.

SEND FOR ENTRY BLANKS TO:

All-America Package Competition

c/o Modern Packaging

122 East 42nd St.

New York City

Protective coatings

by ROBERT GORDON*

The war crisis has brought about a temporary shortage of both tin and aluminum. Undoubtedly, lacquers and lacquer coatings will play an extremely important role in filling the gap left by the United States Government's requisitioning of these two most widely used materials in packaging for national defense.

It is with this in mind that the following information is offered to those who may have to resort to lacquers as a substitute for the shortages—and to those who are naturally inclined to keep step with the progress of new ways of doing things.

To understand coating materials, it may be interesting to trace briefly their beginnings. The word "lacquer" is derived from the Hindustani "lakh," meaning 100,000. It was originally given because of the thousands of insects whose resinous secretion was and still is the basis of many shellacs and natural gums.

Applying a protective or ornamental lacquer finish to wood, paper, metal or fibre is not new. It has been an art for centuries in China, Japan and other Asiatic countries.

Whether a protective coating is classified as a varnish or a lacquer depends upon its method of drying. A lacquer dries purely from the evaporation of volatile solvents from the solution. A varnish dries chiefly by a chemical reaction known as oxidation.

Spirit varnish, therefore, can be really classified as a lacquer, but it is more like the lacquers used centuries ago than those classified as lacquers today. The latter

are for the most part solutions of various gums and resins in alcohol.

The value of these spirit varnishes is due chiefly to their quick drying qualities and low cost. In most instances, where only a limited amount of protection is desired, these spirit varnishes are adequate. However, they have indubitable faults, such as a tendency to soften in warm weather and to crack in cold. Resistance to abrasion is sadly lacking.

Thus, it is not surprising that development of new synthetic materials, such as rubber derivatives, vinyl, methacrylate resins and cellulose derivatives are looked upon by the packaging industry with keen interest. In these new materials are new ideas and trends, new style, new methods, new beauty and new protection previously unknown. Applications of overprints are no longer being made merely for the sake of enhancing the appearance of a package or wrap, but also to incorporate such protections as resistance to oils, moisture, acids, alkalis and to the elements. In most all cases, the new materials give a good-looking finish, so that their effect on appearance is taken for granted and is subordinated to their protective properties.

Today many liquids and oils are being packed in paper containers. Many industries are effecting economies by the use of coated papers. Coatings have been used to protect whiskey labels from the effect of alcohol—soap wraps from discoloration and fading due to alkalis—oil labels from being stained by the oil—salt and cocoa from becoming caked by moisture in their containers.

* Gordon-Lacey Chemical Products Co.

Chemical properties of new coatings, showing their resistance to various characteristics of many packaged products.

GENERAL RESISTANCE								
	Cyclicized Rubber	Chlorinated Rubber	Vinyl Copolymer	Polyvinyl Acetate	Acrylic Resins	Nitro Cellulose	Cellulose Acetate	Ethyl Cellulose
Acids Weak	excellent	excellent	excellent	good	good	fair	fair	fair
Acids Strong	excellent	excellent	excellent	good	good	poor	poor	poor
Alkalies Weak	excellent	excellent	excellent	good	good	poor	poor	excellent
Alkalies Strong	excellent	excellent	excellent	good	good	poor	poor	excellent
Salt Spray	good	good	excellent	good	fair	poor	poor	fair
Alcohol	excellent	good	excellent	poor	poor	poor	poor	poor
Gasoline	poor	poor	excellent	good	fair	good	poor	poor
Mineral Oil	poor	poor	excellent	good	fair	fair	good	fair
Vegetable Oil	poor	poor	excellent	good	fair	poor	good	poor
Animal Oil	poor	poor	excellent	good	fair	fair	good	poor
Essential Oil	poor	poor	poor	poor	poor	poor	good	poor

PHYSICAL PROPERTIES

	Cyclized Rubber	Chlorinated Rubber	Vinyl Copolymer	Polyvinyl Acetate	Acrylic Resins	Nitro Cellulose	Cellulose Acetate	Ethyl Cellulose
Specific Gravity	1.07	1.57	1.35	1.20	1.18	1.65	1.27	1.14
Specific Volume, Lbs./In.³	26.0	16.98	20.6	24.2	23.3	16.26	20.2	23.91
Color	very light	light brown	water-white	water-white	water-white	very light	water-white	very light
Odor	none	slight	none	none	none	none	none	none
Taste	none	none	none	none	none	none	none	none
Flammability	none	low	none	none	none	high	none	low
Heat Seal	excellent	poor at high temp.	excellent	excellent	excellent	fair	fair	good
Effect of Aging	fair	fair	none	none	none	discolor	none	none
Water Absorption	very good	very good	very good	poor	good	fair	poor	poor
Water Vapor Permeability	excellent	excellent	fair	poor	fair	good	poor	poor
Toxicity	none	none	none	none	none	none	none	none

Physical properties of the new materials are particularly important to those who use these new synthetic coatings.

One distinctive advantage of these new synthetic resin materials is their ability to seal with the aid of heat and pressure. Speed in production is increased greatly since the seal sets as soon as the temperature at which the seal was made drops a few degrees. Their bonds are stronger, more flexible, water-proof and do not deteriorate with age.

These rapid strides in the development of the new resins and their uses in packaging have been brought about by carefully planned and directed research. Traditional methods are becoming "has beens." Wide-awake and alert companies who desire to keep up with these modern trends cannot afford to overlook the new possibilities which these materials offer to industry. A brief résumé of the new materials, their method of manufacture and uses follows:

Rubber Derivatives

Rubber in one form or another has always been used for water- and vapor-proofing. However, its high viscosity, residual tack, lack of transparency and its general difficulty in handling have made it practically useless as a protective coating for paper. Through modern methods of research, a resin has been developed from a very high grade of rubber, which can be handled very much like any other coating solution adaptable for application to paper. Moreover, this resin, which is a cyclized derivative of rubber, is an improvement over the raw rubber in water- and vapor-proofness. It is soluble in a variety of aromatic and aliphatic hydrocarbons and leaves a clear, glossy, transparent, heat-sealing film highly resistant to moisture, acids, alkalis and alcohol. It contains no chlorine.

Another rubber derivative very suitable for use as a

paper coating is a product known as chlorinated rubber or rubber chloride. It results from the reaction of chlorine on rubber in which the chlorine content may vary from 61.5 per cent to 68 per cent. The theoretical calculation of the chlorine content is generally higher than the practical since crude rubber is made up of a soluble portion which is very reactive and a gel portion which is much less reactive.

Both these above-mentioned rubber derivatives are extremely useful as a protective coating where good resistance to moisture penetration, acids and alkalis is desired. They can be formulated to produce good, flexible films with good gloss retention. The cyclized rubber derivative, however, is more suitable for heat-sealing purposes, since it is more stable to heat than the rubber chloride and is produced in various grades with various melting points. Both of these materials are not affected by alcohols, but are attacked by gasoline. Their use on glassine or other hard surfaced papers has given results which make these coatings extremely useful in packaging where high moisture resistance is required. On glassine, as little as 1 $\frac{1}{2}$ lbs. of solids coated on each side of the paper, gives moisture vapor passage through the paper of as little as 0 to 5 grams of water/m²/24 hours, at a relative humidity differential of 0 to 100 per cent compared with uncoated paper, which will allow as much as 1,000 grams of vapor to pass through it under the same conditions. It is believed that this type of paper, more so than any other, will be used as a substitute for metal foils.

The outstanding advantage of these coatings is that they are non-toxic and usable for food packaging where high moisture resistance is required to prevent caking of such items as salt and cocoa or to prevent staleness of biscuits, corn flakes, potato chips, pop corn, etc.

The chemical resistance of these rubber derivatives allows for wrapping and packaging of such materials as soaps and detergents and prevents discoloration of the wrap by the alkalis.

Vinyl Polymers

Vinyl chloride and vinyl acetate are formed by passing acetylene through hydrochloric acid and acetic acid, respectively. The molecules of these compounds are possessed with the characteristic of joining together with other like molecules to form larger molecules possessing the same empirical composition. Thus, when vinyl chloride and vinyl acetate are each treated with catalysts, they each polymerize to form polyvinyl chloride and polyvinyl acetate, respectively. This chain reaction can be controlled to various degrees of polymerization and the degree of polymerization determines the average molecular weight, as well as some of the important properties of the polymer.

Polyvinyl chloride is strong in tensile strength with good chemical and water resistance. However, it has poor solubility in most organic solvents and is, therefore, limited in its use for a surface coating.

Polyvinyl acetate, on the other hand, has properties which are quite different. Its softening point is as low as 30° C. and it has a high water absorption and tacky nature. It is more useful, consequently, as an adhesive rather than a surface coating.

A joint polymerization of these two compounds simultaneously, however, with a content of about 85 per cent to 87 per cent vinyl chloride yields a product which is soluble in many organic solvents suitable for use as a medium for adapting the resin for surface coating. What actually happens is that the vinyl acetate, when polymerized together with the vinyl chloride, internally plasticizes the polyvinyl chloride while retaining most of the properties of the polyvinyl chloride.*

A large variety of compounds can be made with varying properties by the copolymerization of these two materials, by controlling the average molecular weights and by altering the vinyl chloride-vinyl acetate ratio.

Vinyl resins of this nature find their most extensive uses in paper coatings where good resistance to acids, alkalis, oils, gasoline and alcohol is required. They have already found successful application in paper liners for bottle caps, fibre containers for holding oils, fibre cartons used for packing nitrocellulose which is kept wet with denatured ethyl alcohol, labels and box papers for improving the appearance as well as for resistance to the above-mentioned materials.

Vinyl resins in general have excellent heat-sealing properties, water resistance, are non-toxic, odorless, tasteless and practically water-white. This makes them ideal for use in food containers and wrappings. They have been used for packaging dairy products, such as butter, cheese and on hoods for milk bottles.

The vinyl acetate polymers have extremely high

thermo and cold adhesive qualities, and are quite extensively used as adhesives in the packaging field. They, too, are non-toxic, odorless, tasteless and colorless, but the water absorption is rather high. However, water does not dissolve polymerized vinyl acetate. This type of resin is used for sealing paper milk containers, paper drinking cups for both hot and cold liquids, as well as a seal for cellophane and cellulose acetate film. It can be coated by the regular methods and it makes excellent heat-sealing papers.

Methacrylate Resins

The methacrylate resins also belong to the vinyl group, chemically speaking, and are made basically from coal, air, water and petroleum. These resins are made from various esters such as ethyl, methyl, butyl and isobutyl derivatives. To date, the most extensive use for acrylic resins has been in molding. However, they are soluble in a large variety of solvents and are suitable for coating. The ethyl methacrylate, however, is probably the best suited for this work, since the methyl polymers which are used chiefly in plastics are too hard and brittle for coating. The butyl polymers, moreover, are too soft and sticky. The acrylic resins are water-white, thermoplastic and have good resistance to water and inorganic chemicals. They have not been fully explored as yet in this particular field, inasmuch as they have been very costly.

Polystyrene Resins

Polystyrene resins also known as vinyl benzene have ideal potential properties for protective coatings. However, their one drawback is their hardness and lack of flexibility. Formulating chemists spent many hours trying to make a usable, flexible polystyrene coating.

Cellulose Derivatives

Nitrocellulose, ethyl cellulose and cellulose acetate have also been used to a great extent for coatings of paper. However, their usefulness is much more limited than the other mentioned thermoplastic, high molecular weight, film-forming resins. Good moisture-resistant nitrocellulose lacquers and fair oil-proof cellulose acetate, as well as good thermoplastic coating from ethyl cellulose, have been made. However, these materials do not have as many inherent physical and chemical properties as do the thermoplastic resins. They have to be modified to so large a measure by other ingredients that, in many cases, they lose their advantages. In paper work, these materials have found large uses in coated labels and fancy box papers. Moisture-proof nitrocellulose lacquers have been used on both cellophane and glassine with good results. The one outstanding disadvantage of nitrocellulose lacquers is their high rate of inflammability. This requires extreme care in handling and storing.

* These copolymers of vinyl acetate and vinyl chloride are manufactured and sold under the name of "Vinylite."

In general, all coatings mentioned give good scuff proofness and good gloss, which enhance the appearance and serviceability of the package.

The thermoplastic type of materials is best suited for heat-sealing work and bags can be made and sealed only with heat and pressure. In general, temperatures of approximately 300° to 400° F. are required.

The statements above are all relative and general. The efficiency and advantage of any of the mentioned materials will depend upon the precise development by the lacquer manufacturers of these materials for particular uses. In application, the lacquers made from these new synthetic bases vary little from the conventional methods of coating. However, certain facts must be taken into consideration if the best protection and appearance are to be obtained. First, let us consider briefly some of the established methods of application, their shortcomings and the modern trend to improve these methods.

Coating in sheets is generally accomplished on a so-called varnishing machine, which consists of a reservoir in which the liquid is poured. Running in this reservoir is a distributing roller with an attached doctor roller, which regulates the amount of coating to be applied to the sheet. The sheet is drawn over the distributing roller by means of a large revolving drum equipped with grippers. These grippers hold the sheet firmly to the drum as it revolves. At the same time, they draw the paper over the distributing roller with the regulated amount of coating. The sheet picks up the coating, is then released on an endless belt and carried through a heated oven to be dried. See Fig. 1.

Although this type of equipment has served the industry successfully for years in applying spirit varnishes chiefly for good appearance without much damage, a little more careful handling and thought to details must be given if coating by this method is to be used successfully for protective application. Like the chain with its weakest link, the protective quality of the finished product is only as good as the continuity of its film.

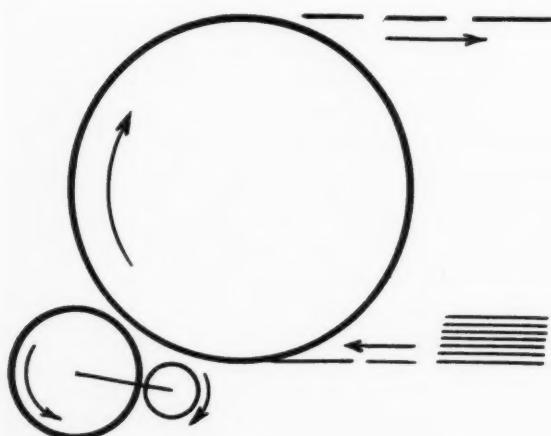


Fig. 1. Diagram of varnishing machine for sheet coating.

Pinholes, bare spots and not enough coating render the sheet useless from this point of view.

The machines have been modified to the extent of varying the speeds of the distributing roller, so that the sheet wipes against the roller instead of kissing it. The modification tends to eliminate any streaks in the coating and to provide for more uniformity and a wider range of thickness control. Another modification has been to reverse the distributing roller in such manner that it runs in the opposite direction to the motion of the large drum and the sheet and thus lays down a smooth streakless coat. This is, perhaps, the best method. However, since the operating details have not as yet been satisfactorily worked out, more information is not available at present.

The second method to be discussed is the reverse roller coating equipment, of which there are several different types for production in the web or roll, rather than sheet. At present, there is no question about the merits of this type equipment. With these machines, accuracy and uniformity can be obtained satisfactorily without much difficulty.

One reverse roller type of machine consists essentially of a roller about half submerged and operating in a tank filled with lacquer. The paper runs over this roller in the opposite direction to its motion, picks up the lacquer and is carried between two rollers attached in wringer fashion. One of the rollers is stationary and revolves in the direction of the paper. The other roller is adjustable and operates in reverse direction to the movement of the paper. To the adjustable roller is attached a doctor blade which wipes down the excess lacquer which is picked up from the paper. Very accurate results for the weight of coating can be obtained from a machine of this type. In fact, actual calculations of the amount of coating to be applied can be determined before operation starts. See Fig. 2.

Another popular type of reverse roller coater has a roller operating in a lacquer bath. To this roller is attached a distributing roller, which picks off the lacquer from the roller in the bath. To the distributing roller are connected two adjustable auxiliary rollers at approximately 90° from one another. One of these auxiliary rollers has a doctor blade attached to it, operates in reverse of the distributing roller and regulates the amount of lacquer on the distributing roller. Between the second auxiliary roller and the doctored-off portion of the distributing roller, the paper passes also in a direction opposite to the rotation of the distributing roller. See Fig. 3.

Rotogravure printing is also being used to apply lacquers to paper in web form. Recently presses have been designed with closed fountains, which are ideal for lacquer work. However, rotogravure applications of lacquer for protective work have limitations: first, in the amount of coating applied and second, in the continuity of the film. The lacquer is applied by means of etched rollers. Caution must be taken with the formulation of the lacquer to be sure that it flows out to a uniform film before drying.

After the lacquer is applied, the sheets or web pass through a heated oven. These ovens are generally 30 to 40 ft. long and are constructed of sheet iron lined with asbestos. The source of heat is either the open gas flame, steam coils, hot air or, more recently, infrared lamps. Of all these, the open gas flame is the least desirable, since it affords a definite fire hazard when used with lacquers.

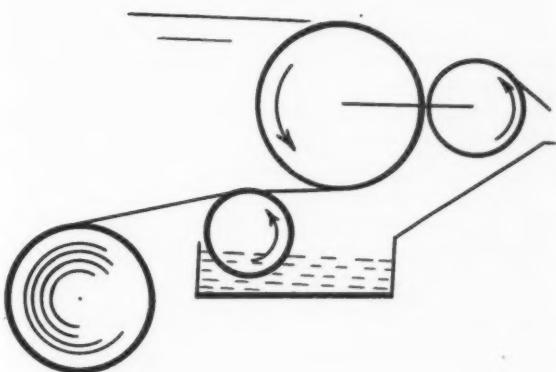
Although many of the lacquer bases are non-inflammable, the solvents used in making them flash at relatively low temperatures. The other types of heat are safe and, with such other necessary precautions as adequate ventilation, static control and proper electric equipment, little is to be feared from the fire hazard.

A recent innovation in designing ovens has come about by the use of synthetic coating materials. It has been found that thermoplastic compounds will flow out when sufficient heat is applied to make them melt. Since the heat required to bring about this change of state is generally high enough to scorch the paper, the heat is applied only for an interval of 5 to 10 seconds, depending upon the amount of heat used. In most cases, about 400° F. is used for 5 to 10 seconds after the heated sheet has passed through the regular oven at 150° to 200° F. The result of this flash bake is a beautiful, smooth, high gloss finish on the paper.

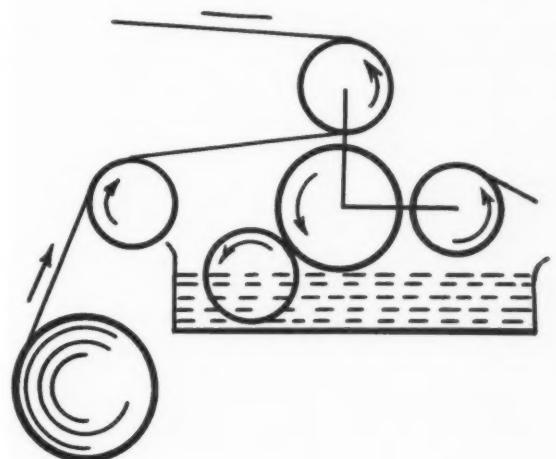
With infra-red lamps, no ovens are required, since the air is not used as a medium for conveying the heat energy. Infra-red lamps give off rays which are not absorbed by air. The efficiency of this method, however, depends on the material being heated. That is, if the material being heated has the ability to reflect rather than to absorb these radiated rays, no amount of drying time will be adequate. However, if it does have the ability to absorb these rays, excellent drying facilities by this method can be arranged. Paper absorbs only a small amount of these rays, especially if the paper is white, and it is believed to be an impractical method of drying lacquers efficiently on paper.

The selection of the proper grade of paper is of vital importance to obtain maximum results. A grade of paper not suited for lacquering is extremely costly and the results are inadequate. Too much emphasis cannot be placed on the selection of paper stock. In considering paper for a protective lacquer, it must be remembered that it is only the film formed above the fibres that gives the most effective protection. Consequently, it goes without saying that papers which allow the least amount of coating to penetrate into the surface of the sheet are best.

A convincing illustration of this fact was demonstrated in work with moisture-proof lacquers. In an application of approximately 1½ lbs. of solids on each side of a glassine sheet over a 3,000-sq. ft. area, a series of readings were obtained between 0 to 5 grams of moisture vapor transmission per 24 hours per square meter. In an application of coating to a paper stock that was picked at random, but which was being used for lacquering, readings were between 50 to 60 grams of moisture penetration. It wasn't until about 3 to 4 lbs. of



Diagrams of coating machines for continuous roll or web coating. Fig. 2, above. One reverse roller type consists of a roller about half submerged in tank filled with lacquer. Fig. 3, below. Another type of reverse roller coater has a roller operating in a lacquer bath.



coating were applied to each side that favorable readings were obtained for the paper picked at random. Furthermore, an additional amount of coating on the glassine sheet gave no better results than the initial amount stated above. Thus, there is a limit to the amount of protection you can get and this maximum limit can be obtained much quicker and at a greater saving with the proper paper. It is much cheaper to treat a paper properly in the mill for good lacquering results than to apply an excess of lacquer to make up for the deficiency of the paper.

Paper to be used for lacquering should have a hard surface free from pores, grooves and standing fibres. In most cases, a super calendered sheet or a coated sheet produces the best results. The coated sheet is superior, however, to the super calendered sheet, in as-

much as there is less penetration into the paper. However, great care must be used in the selection of a coated stock. The coating should be hard but flexible, since the lacquer film will crack if the paper coating cracks upon flexing.

In buying competitive lacquers the purchaser should obtain the following salient facts in order to evaluate them on a dollar-for-dollar basis:

1. Knowledge of what you want the lacquer to do.
2. Weight per gallon.
3. Percentage of solids per gallon.
4. Specific gravity of solids or how far it will go per unit of thickness.

Lacquers, in many cases, can be formulated to give you the best results for certain types of protection. It takes much less lacquer to do the best job, if you select one specifically designed. Knowing the weight per gallon, the percentage of solids and the specific gravity of the solids, you will be able to evaluate the cost of competitive lacquers—assuming, of course, that their properties are equally as good.

This can best be illustrated by a hypothetical case. The specific gravity of a material is the same as its density or its unit volume. Materials with lower densities or specific gravity take up more room than those with higher densities. It follows, then, that those that take up the most room or have the larger volume will be able to cover a greater area per unit thickness.

Which Would You Choose?

Suppose you had a choice of two competitive lacquers of equal protective merit to choose from. Which would you choose from an economical point of view?

	A	B
Cost/gal.	\$2.25	\$1.75
Weight/gal.	7.00 lbs.	7.5 lbs.
Specific gravity or density		
of solids	1.00	1.5
Per cent solids	30	30

Obviously, if you made a purchase from these facts on the gallon price basis only, you would select B, but don't be deceived by the gallon price. A is a much better buy if all the above facts are known and considered. It must be remembered that the value of any lacquer is in its solids, for it is the solids that remain on the paper; the solvents escape into the atmosphere.

$$A - 7 \text{ lbs./gal.} \times 30\% \text{ solids} = 2.10 \text{ lbs. solids/gal.}$$

$$B - 7.5 \text{ lbs./gal.} \times 30\% \text{ solids} = 2.25 \text{ lbs. solids/gal.}$$

Since the specific gravity of B lacquer solids is 1.5 times that of A, for every pound of A lacquer solids it would require 1.5 lbs. of B lacquer solids. Consequently, since 1 gal. of A contains 2.10 lbs. of solids, it would require $2.10 \times 1.5 = 3.15$ lbs. of solids, or 1.4 gal. of B lacquer to cover the same area per unit

thickness as 1 gal. of A. It now becomes obvious that A lacquer is a better buy than B lacquer for—

$$1 \text{ gal. A} \times \$2.25/\text{gal.} = \$2.25$$

$$1.4 \text{ gal. B} \times \$1.75/\text{gal.} = \$2.45$$

Following are more reasons why all the facts should be known:

1. If you know the weight per gallon without the per cent of solids, you do not know the amount of solids per gallon, and vice versa.

2. If you know the amount of solids per gallon without knowing its density or specific gravity, you do not know how far it can go, and vice versa.

With these facts on hand, any two lacquers can obviously be evaluated to determine which is the best buy regardless of the initial cost per gallon or who makes it.

Leaves Nothing to Guesswork

Another important economic consideration is to know definitely how much lacquer is used on each job. This can be evaluated as pounds of solids per ream or 1,000 sheets of a certain size or whatever arbitrary unit is most convenient. For all intent or purpose, if an uncoated and lacquer coated sheet of equal area are weighed, the difference in weight calculated into the unit desired is sufficient to tell how much lacquer is being used. Once these facts are established and the above-mentioned facts about the lacquer are known, it is very easy to estimate how much lacquer is required and how to set up the costs for any job. It leaves nothing to guess work.

In the course of operation, there will be a loss in solvents from the fountain. As the loss increases the amount of coating being applied to the paper increases and an unnecessary loss is sustained. However, a very simple method can be employed to check and eliminate the loss. Two vials or test tubes, 6 in. long and $1/2$ in. diameter with corks, and a thermometer are the only apparatus necessary. One tube is filled with the standard or starting lacquer to within $1/2$ in. to $3/4$ in. from the top and corked. This is kept as a standard for the job. The other is filled and corked the same way with the lacquer after it has lost some solvent. These are put into a pan of water, kept at the same temperature as the lacquer in the fountain and held there for a minute or two. The tubes are then removed from the water and inverted. A bubble will form in each tube and it will be seen that the bubble formed in the tube with lacquer that has lost some solvent flows slower than the standard. It is only necessary to add sufficient thinner to the lacquer and re-check as above until the bubbles in each tube flow at an equal speed. These checks can be made at intervals during the course of operation without slowing down the machine and will give a fairly accurate check on the consistency of the lacquer.

The foregoing gives an idea of the many factors involved in the use of lacquers and lacquer coatings. A careful study of these essentials by those who contemplate using them will provide a sound basis from the start to obtain the best results.

Wax that "blooms"

by LEONARD S. LEVITT*

When candies and food products are wrapped hot with waxed paper, difficulty arises in the prevention of wax-transfer to the food product during the wrapping operation, as well as in storage during hot weather or under conditions of abnormal heat. "Wax-offset" results in poor consumer sales appeal, and decreases the palatability of the food product.

In order to overcome this difficulty, some manufacturers have specified to their converter that the waxed paper coating comprise a percentage of a higher melting wax, carnauba, in an amount from 7 to 10 per cent. Satisfactory results were obtained within the limits of temperature that the added carnauba afforded. However, where especially hot wrapping was desirable, or temperature conditions on storage were abnormally high, the problem was again manifest. To increase the percentage of carnauba meant to sacrifice flexibility of the sheet as well as increase the cost beyond reasonable limits. As a matter of fact, the cost factor, as a result of the increased price of carnauba wax, had already reached an almost prohibitive point. Thus began the search for a "synthetic" which would not only satisfy the physical requirements, but also bring the paper cost down to respectable dimensions. It developed, however, that to satisfy the requirements the wax must possess rather unique properties. These qualifications may be classified into two categories: one, dealing with the wax itself and two, a group concerned with the resultant blend, as listed below:

Physical Properties of Wax

1. Color—light, preferably white.
2. Form—as hard as carnauba.
3. Luster—preferably very high.
4. Melting point—85° C. or higher.
5. Compatability—give a homogeneous blend with paraffin wax.
6. Toxicity—none.
7. Reactivity—non-corrosive to metal.
8. Solubility—water insoluble.

Furthermore, the cost should be considerably less than carnauba.

Properties of Blend

Since volume production could be obtained best with the water-waxing system, the following properties are requisites of the wax blend:

1. Melt to a thin liquid below 250° F. (scorching point of paper and paraffin).

2. Compatability with paraffin in following ways:
 - a. Give a homogeneous meld.
 - b. On quick cooling (down to 40° F. in water system) the higher melting wax should crystallize partially or "bloom" to the film surface.
3. Have quick-setting properties.
4. Seven per cent added high melting wax should be sufficient to give a higher melting coating to maintain cost limits.
5. Give good sheet flexibility for automatic wrapping and not detract from heat-sealing properties should they be desired.

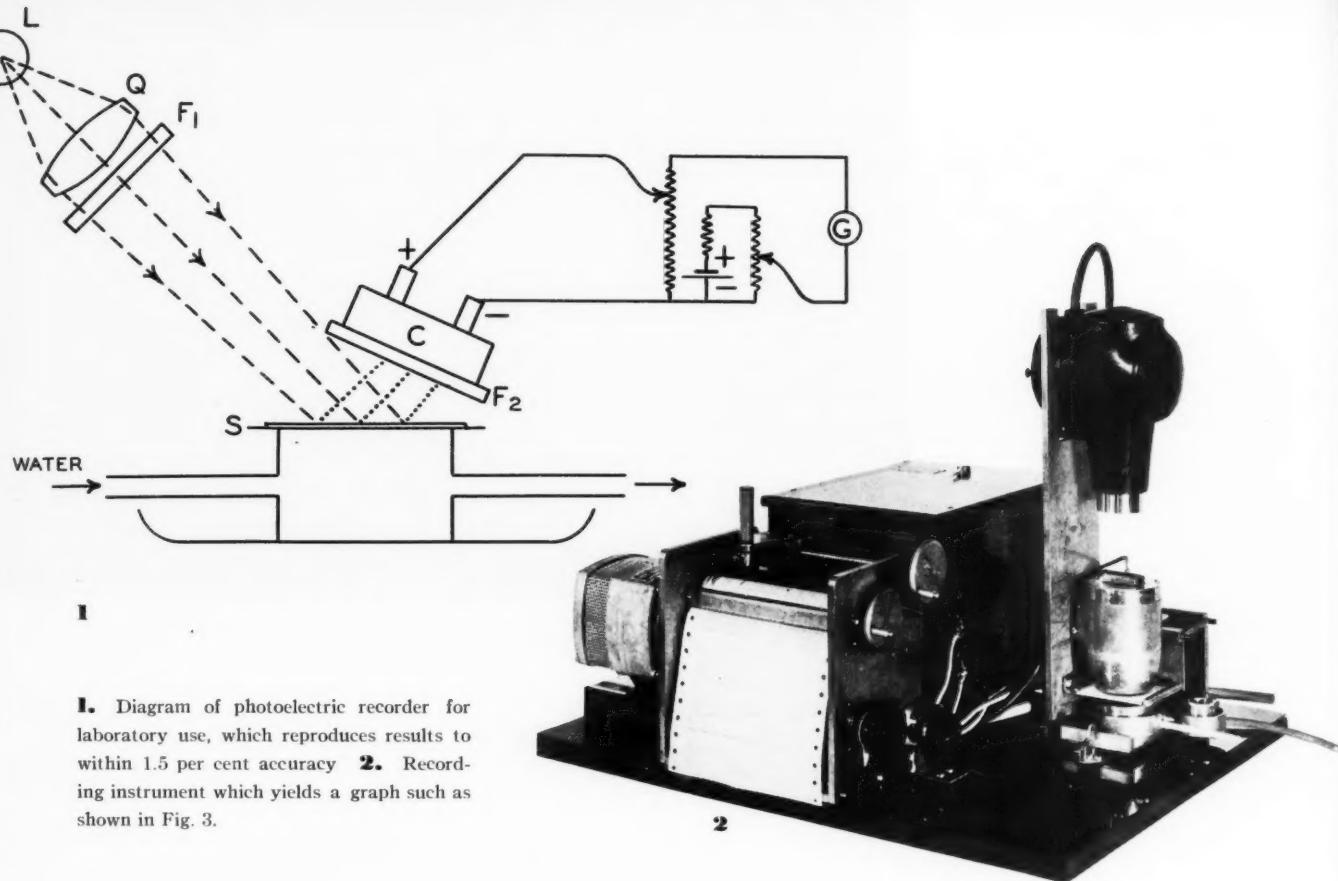
The wax which seemed to comprise experimentally these varied properties and has since proved itself in actual production and subsequent use is a synthetic paraffin blend,† a material manufactured from domestic raw materials. This new synthetic is a white, hard wax having a very high luster and a melting point of 95–97° C. It is insoluble in water, but completely soluble hot in hydrocarbons. It has been used for its high luster as a coating material for linoleum and paper products as well as in various types of polishes.

While there is little or no increase in the EMP (English Melting Point) of the synthetic paraffin blend, the wax film of paper coated with this combination by the water-waxing system possesses a relatively high melting point. This suggests the probability of a partial "blooming" or orientation of the synthetic blend to the paraffin surface, which results in a high melting point of the film approaching that of this synthetic paraffin blend itself. In view of the fact that this new wax has a melting point about 14° C. higher than that of carnauba, this offers another distinct advantage over the latter wax. Furthermore, this property of "bloom" seems more pronounced with the new material, which in effect gives a somewhat harder surface film without sacrificing flexibility of the sheet. Still another desirable feature of the use of this new synthetic that can be attributed at least partly to its property of "blooming" is the much quicker setting of the film, which allows for speedier production.

In the use of this type of wax, two important factors must be borne in mind: one, a water-waxing system is required and two, a fairly critical temperature of the melt must be maintained. This temperature, 240° F., has been determined after quite a number of commercial runs. It seems that below this point poor results are generally obtained and when the temperature rises as much as 8 to 10 degrees above this optimum, scorching of the paper or souring of (Continued on page 108)

* Technical Dept., Philadelphia office, Glyco Products Co., Inc.

† Manufactured under the trade name of Albacer.



1. Diagram of photoelectric recorder for laboratory use, which reproduces results to within 1.5 per cent accuracy 2. Recording instrument which yields a graph such as shown in Fig. 3.

Testing water resistance of paper

The most popular test now in use for the determination of the water resistance of paper is the TAPPI dry indicator method. In a recent publication, H. Grant suggested another method which is based on the fact that under ultraviolet illumination the fluorescence of rhodamine 6GX is dull red, when the dye is dry, but assumes a brilliant orange-yellow when the dye is in aqueous solution. The indicator recommended by Grant is a mixture of one part dye in 200 parts of powdered sugar. It will be observed that this indicator is very similar in composition to that of the TAPPI method. Both methods were subjected to extensive experimenting which showed that they have a common disadvantage, i.e., the color change of their indicators is affected by the presence of water vapor previous to the actual penetration of the water itself.

Therefore, feeling that the existing methods left much room for improvement, the Paper Makers Chemical Division of Hercules Powder Co. and the Institute of Paper Chemistry entered upon a cooperative research sponsored by the former. Their objective was to develop an improved size test. They developed a new method and apparatus.

In view of the known hygroscopicity of powdered sugar, it was logical to assume that the large percent-

age of powdered sugar in the TAPPI dry indicator and Grant's fluorescent indicator (90 per cent and 99.5 per cent, respectively) is responsible for their sensitivity toward water vapor and that, therefore, the fluorescent end point, as obtained with the pure dye, may be comparatively free from the effects of water vapor. Consequently, investigations were continued, using the pure fluorescent dye as indicator.

After numerous experiments with many different types of paper (72 samples of 19 grades) and different types and concentrations of dyes as indicators, Uranine B (Heller and Merz) was selected as giving the most sensitive and accurate results. Its end-point fluorescence is a brilliant yellow of very high intensity and the fluorescence of the dry dye is like that of rhodamine 6GX, a very dull red. To produce the brilliant yellow color of the end point, a definite quantity of water must be in contact with the dye, so that water vapor transmission cannot affect the test. The method is called the Hercules Fluorescence Size Test and is as follows:

A diagram of a particularly satisfactory photoelectric recorder as finally devised for laboratory purposes, which reproduces results to within 1.5 per cent accuracy, is shown in Fig. 1 and a photograph of the instrument is shown in Fig. 2. Light from a small mercury

arc of high-surface brightness, L , is condensed by a quartz lens, Q , and filtered by an ultraviolet filter, F_1 . Part of the fluorescent light originating in the specimen, S , falls upon the photocell assembly, which consists of a very sensitive photocell, C , of the blocking-layer type, placed behind a filter F_2 , which completely eliminates ultraviolet light and the violet end of the visible spectrum. The photocell is connected through a control circuit to a sensitive galvanometer, G . The control circuit enables the operator to balance out the photocurrent due to background fluorescence and to adjust the sensitivity, so that the full-scale deflection of the galvanometer corresponds roughly to the final equilibrium value of the photocurrent.

The recording instrument in its present form yields a graph, such as that shown in Fig. 3, plotting intensity of fluorescence vs. time. The fluorescent indicator sizing time is taken as that point at which the linear rising portion of the curve and the minimum value intersect. That point is taken as the end point because:

1. It approximates best the previously observed data obtained with the visual Fluorescence Size Test end point.
2. It exhibits the smallest variation with varying amounts of dye applied.
3. It exhibits the smallest probable error.
4. It consumes the least time, since it is unnecessary to carry the intensity-time curve beyond the linear rising portion.

The instrument is operated as follows: After brushing the dye on a specimen and brushing the excess away, the operator places the specimen in a sample holder and covers it with a flat cover glass. He then presses a lever and the water cup rises automatically to bring the free water surface into contact with the specimen. The upward rise of the water cup is damped by a small dash pot. When the water surface meets the specimen, the synchronous motor, which drives the

chart paper, starts automatically. All that the operator has to do is to turn the hand wheel to follow the galvanometer deflection. This can be done by an inexperienced person with very good accuracy. This manual feature of the recording holds the cost of construction of the instrument down to several hundred dollars less than the cost of a similar instrument with completely automatic recording. The instrument has the important advantages of a recording device: time is saved, a permanent record is had and "mistakes," like misreading of a stop watch, galvanometer deflection, etc., are eliminated.

When runs on a series of specimens have been completed, the operator obtains the t_{1g} values from the recordings. It is not actually necessary for him to construct straight lines with a pencil, for the readings can be made quickly with a celluloid straight-edge.

Using both photoelectric devices, a number of variables were studied. The data below are given to acquaint the reader with the order of magnitude of photoelectrically determined size times.

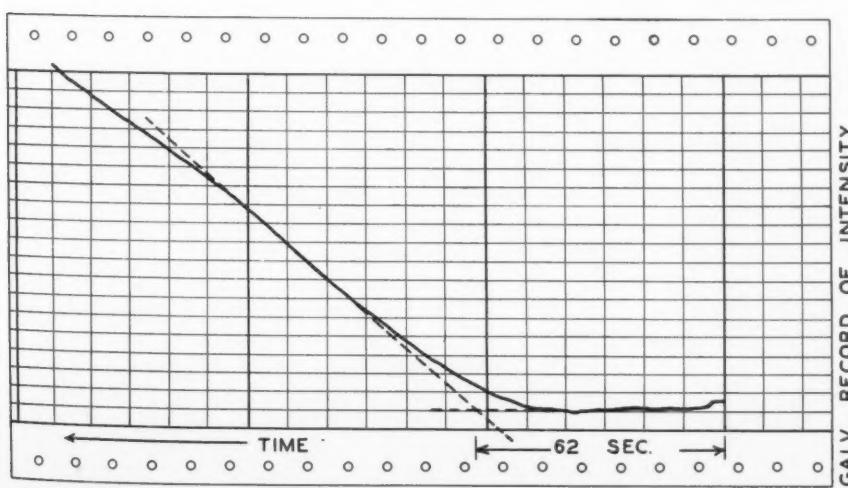
A study of the variables showed that no errors can be attributed to the variable application of the dye by the brushing technique, to the particle size of the dye, nor to its moisture content, while the effect of temperature of the water, due to the variation in viscosity and surface tension of liquids with temperature, is felt distinctly. A fairly typical figure for the temperature effect is -5 per cent change in t_{1g} per $^{\circ}\text{C}$. Therefore, in accurate work the temperature must be held constant to within a fraction of 1°C . Finally, the effect of relative humidity of conditioning atmosphere was found to be of less influence on test data than temperature variations. All in all, an average probable error in an individual determination is 1.5 per cent. It is apparent that these errors include the effect of sample variations as well as variations caused by the testing method itself.

3. Graph plotting intensity of fluorescence vs. time.

4. Comparison of methods of determining size times.

COMPARISON OF PHOTOELECTRICALLY DETERMINED SIZE TIMES (t_{1g}) AND VISUAL F. S. T. AND TAPPI SIZE TIMES

Sample No.	Class	Visual		
		t_{1g}	F. S. T.	TAPPI
Basis (sec.)		(sec.)	(sec.)	
83904	butchers wrap...	28	54	56
83905	butchers wrap...	37	94	99
83906	offset.....	60	92	111
83912	striped sulfite wrapper.....	30	37	40
83913	striped sulfite wrapper.....	34	39	46
83914	striped sulfite wrapper.....	35	43	53
83921	kraft bag A.....	30	62	69
83929	kraft bag B.....	25	27	46
83930	kraft bag B.....	30	57	71
83931	kraft bag B.....	40	75	110
83932	kraft bag B.....	50	111	140
83933	kraft bag B.....	60	165	210
83934	kraft bag B.....	65	176	259
83935	kraft bag B.....	70	164	309
83936	kraft bag B.....	75	282	321
83941	English finish book.....	50	26	19
83943	coating raw stock	43	64	59
83947	coating raw stock	50	90	59
83948	coating raw stock	68	87	88
83949	coating raw stock	114	209	208
83951	folding coating..	88	119	110
				76



Nature-fresh in latex

Easily within the memory of most of us was the time when cold-storage foods were either disdained or reluctantly accepted. But necessity and invention have operated to nullify that term of opprobrium. Methods of processing frozen foods today are very different from the cold storage of yesterday. It is difficult even for the connoisseur to distinguish between fresh and frozen foods.

One of the latest scientific developments in this direction is a protective coating made with a latex base which seals in the nature-fresh flavor and condition prior to the freezing operation. Used in conjunction with a folding cardboard container, this method, so its sponsors declare, applies what is practically a new principle in filling, sealing and emptying frozen foods.

This packaging process and material were laboratory-tested for a considerable time before they were released to a package manufacturer, who in turn experimented for at least two years prior to actual commercial application. As a result, a shipping, storing and freezing unit has been developed which makes it possible to evacuate practically all air when making the closure.

The illustration on this page shows the final step just prior to freezing in packing strawberries down in Alabama. The fresh fruit, carefully sorted for uniformity of size, degree of ripeness and elimination of defective fruits, has been weighed into the 10-lb. container, which is lined with the protective bag. A simple twist of the wrist—to make a literal use of the old "saw"—evacuates the air, the container flaps are folded down and sealed, and the container is on its way to the freezing room. Proper stacking of the container units is easy. Because of their convenient shape, maximum air circulation is provided and the finished frozen package emerges from the freezing room in its original shape, exactly as it went in.

The method of packaging, as illustrated in the series of photographs on page 45, is accomplished in a few simple steps. First, the bag is inserted in the container with the mouth stretched over the carton flaps. This affords the largest possible opening. Next, container is filled and the bag mouth is twisted with the double purpose of exhausting the air and sealing the bag. The open end is then stretched over one of the carton flaps, which is die-cut to hold the resilient bag material in place. In the case of larger containers, a fibreboard "key" is used to facilitate the twisting of the bag and this is folded in when the carton flaps are closed. The container, a rectangular carton of easily handled proportions, is then ready for freezing. Its shape permits ideal stack and affords maximum air circulation during the freezing operation. The units retain their proper shape and after freezing are conveniently handled, shipped and stored. When ready to use, the contents are thawed out, the bag untwisted and stretched back over the carton flaps and pouring makes an easy removal method.

Apparently, the secret of the method's success lies in the fact that air is exhausted, but the inner wrap can stretch to accommodate itself to the expansion and contraction due to thermal changes. The elastic bag stretches, as the food expands during freezing; this takes up the extra space between bag and container with no bulging of the contents or distortion of carton. Throughout its life the package is sturdy and dependable. To the absence of air, particularly during the thawing process, is attributed the preservation of the natural fresh taste, especially of fruit juices, crushed pineapple and similar products.

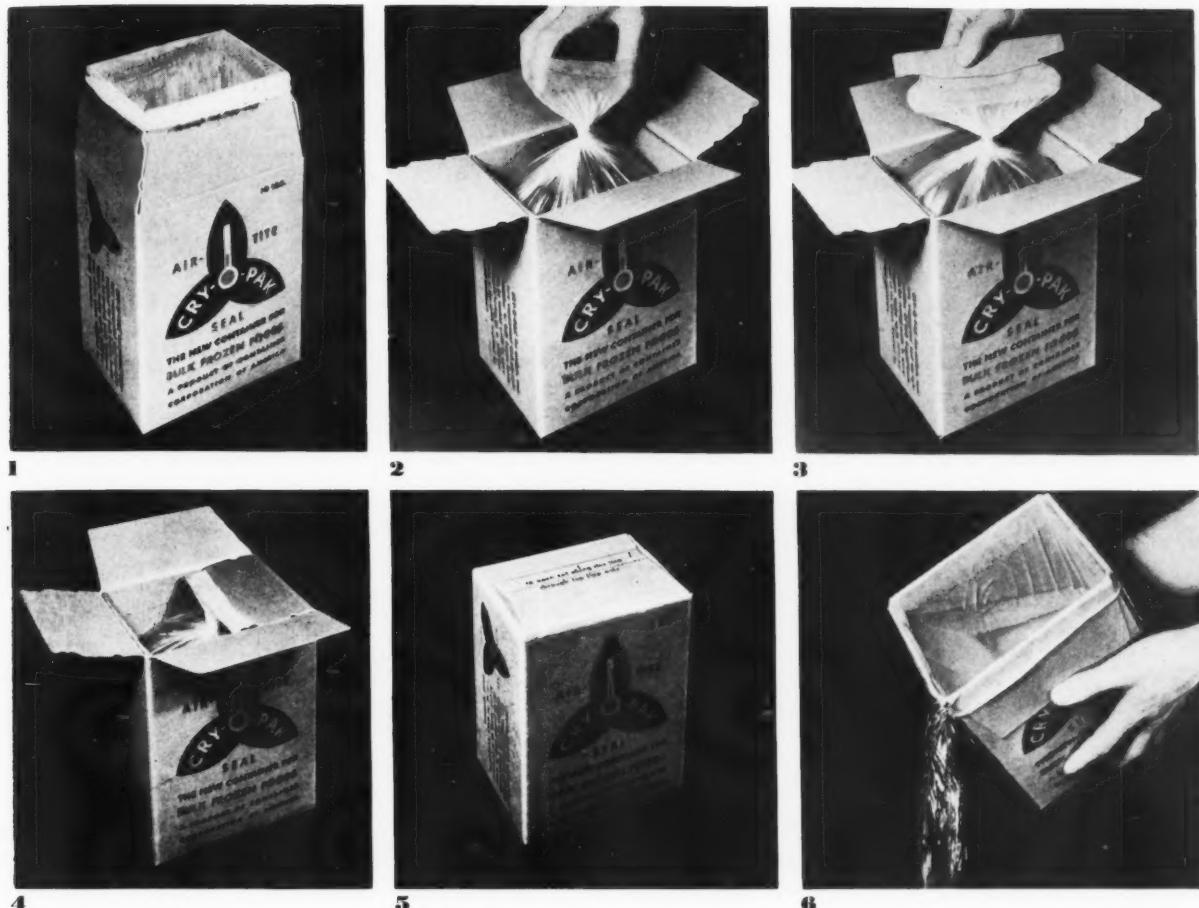
This form of pack has proved commercially successful for frozen eggs, fruit juices, berries in syrup, for small fruits, loose frozen vegetables and berries.

The makers have this to say regarding packing temperature:

"Regular bags furnished with these units are conditioned to operate where neither the temperature of the product nor that of the packaging room exceeds 65° F.



"Vita Froze" strawberries enclosed in latex bag and carton prior to freezing operation. Photo courtesy Southern News Service.



Series of photographs showing steps in application of Cry-O-Pak: 1. Bag is inserted in container with mouth stretched wide open over carton flaps. 2. After filling with contents, bag mouth is twisted, exhausting air. 3. Larger sized bags are twisted more easily by means of special fibreboard "key." 4. Open end of bag mouth is folded in and seal is maintained by means of "key" or by being stretched over carton flap. 5. Carton ready for freezing—after which it becomes an easily handled storage or shipping unit. 6. Contents thawed, bag untwisted and stretched back over flaps, speedy emptying is easy. Photos courtesy Container Corp. of America.

If either is above this temperature, it is necessary to take special precautions. If the bags and cartons are assembled in a refrigerated room, the units can be exposed for several minutes in rooms held at temperatures considerably higher than 65° F. However, to maintain a temperature of less than 65° experience has shown that it is a simple matter to partition off inexpensively the section of the packaging room in which the filling is done and equip it with a small low-cost unit cooling coil and fan. Good practice almost always calls for cooling the contents to less than 65° before the packing operation."

Bulk packages for freezing quantities as great as 100 lb. have proved practical and the bags are made in varying weights.

Advantages claimed for this method of packaging are summed up thus by the manufacturers:

1. Moisture-vapor-proof character of pack prevents dehydration of contents,

2. "Head space" in the package is eliminated, which, it is declared, prevents discoloration and drying out of particles.

3. Attractive printing and design possibilities on the outer container.

4. Economy of materials considering advantages possible by this method.

5. No special equipment required—standard production lines can be used.

6. Containers being shipped "knocked down" and bags being shipped collapsed, minimum storage space is required; cubic or rectangular shape of finished pack makes for easy handling, storage and disposal. Two or more small containers may be tied together and shipped as a unit when only a small quantity of material is used at one time and the remainder stored for future use.

Credit: Containers by Container Corp. of America. Informative material by Dewey & Almy Chemical Corp.

Microbiology of paper containers

by J. R. SANBORN*

During the past dozen years or more, considerable scientific study has been carried out on the physical, chemical and microbiological condition of paper and paperboard products manufactured for a wide variety of uses. This work is progressing in scope and rapidity as demands and new uses for these products develop in various industries.

Paper Packages for Foods

The object of this branch of paper and paperboard research is to produce the most suitable products for the many purposes intended. One aspect of the subject involves paper and paperboard packages for foods and various agricultural products. The chief objective of this work is to improve the keeping quality and sanitary condition of foods by providing packages that are specifically suitable for the various classes of food-stuffs to be sold in them.

Suitable paper packages have the advantage of adaptability, cleanliness, freedom from undesirable microbiological growth and essential non-reactivity with foods, as well as relatively low cost and the benefits of single service use. Certain classes of paper products must meet satisfactorily the severe requirements of the most perishable and most easily contaminated foods, i.e.,

milk and milk products. Paper packages are now used for a large number of foods including dairy products, frozen foods, meats, fish, shellfish, delicatessen foods, fatty foods, bakery goods, fruits and vegetables, eggs, dried and concentrated foods.

Pulp and Paper Microbiology

While in the past considerable attention has been paid to the physical properties of many of these paper products and also to certain biochemical reactions involved in the packaging of some foods, the influence of microbiological development on the suitability of the package and on the food which it contains has not, until recently, received major consideration.

Studies carried out for several years past have attributed various troubles from off-odor, spotting and poor keeping quality in paper-packaged goods, such as butter, bakery products, meats, fish, eggs and tobacco, more or less directly to the deleterious effects of micro-organisms or products of microbiological growth present in the paper or paperboard utilized.

Probably one of the first attempts to work out a method for determining the microbiological content of paperboard was made by the author in 1932. This investigation was accompanied by microbiological studies of mills producing these products for the purpose of controlling growths of microorganisms that were to

* New York State Agricultural Experiment Station, Geneva, N. Y., Journal Paper No. 451, approved by the Director, June 19, 1941.

TABLE 1
COMPARATIVE BACTERIOLOGICAL ANALYSES OF QUART PAPER MILK CONTAINERS

Incubation: 37° C. for 48 hours; 25° C. to 30° C. for 5 Days (Broth Sterility Test)
Media: Old and New Standard Agars and Broths.

Type of Container	No. of Sources Utilized	Year	No. Containers Tested	Per Cent Yielding Less than 5 Colonies per Container by Rinse Methods	Per Cent Sterility with Broth
I	2	1937	435	86	0 to 30
	1	1938	4,650*	93*	30 to 100
	6	1939-1940	1,068	87	69 to 100
II	4	1937	278	54	11
	5	1938	2,791	76	8 to 55 (Max. 82)
	4	1939-1940	1,581	75	20 to 66 (Max. 87)
III	1	1937	300	6	0.9
	2	1938	622	74	14
	1	1939-1940	808	94	78
IV	1	1938	100	60	12
V	1	1938	538	78	28
VI	1	1937	150	71	13

* Cooperative study with other laboratories.

TABLE 2
BACTERIOLOGICAL ANALYSES OF LIQUID TIGHT CONTAINERS

Size of Container	No. of Sources Utilized	No. Containers Tested	Percentages Yielding Counts Between					Maximum Counts
			0 and 5	6 and 100	101 and 250	251 and 500	Over 500	
Half pint	3	109	87.0	13.0	0	0	0	35
Pint	5	757	77.4	20.5	1.5	0.5	0.1	514
Quart	3	478	65.1	31.6	2.1	0.6	0.6	676
5 lb. tub	2	105	45.7	54.3	0	0	0	68

be found throughout various pulp and paper systems. The introduction of the paper containers for milk, emphasized the need of bacteriological methods and standards applicable to the paper or paperboard used in the manufacture of bottle caps, hoods, closures and containers employed in packaging perishable and easily contaminated foods. A considerable amount of study has been given to problems of suitable methods and standards. Through the cooperation which this work has received from mills and converting plants, much useful data are now available which facilitate the fixing of reasonable standards and also indicate the progress already achieved.

Microbiological and Sanitary Control

Early work on the microbiology of paper and paperboard products revealed considerable variations as to bacteriological counts and types of microorganisms present. The microbiological flora was quite typically a mill flora. Many mills were prompt in their appreciation of the uneconomic as well as other undesirable aspects of the situation and proceeded to establish more effective programs of microbiological control and to use greater precautions in general cleanliness and in selection of pulps for food packages. Converters also adopted sanitation programs designed for the adequate sanitary protection of stock during the fabrication of paper and paperboard products.

Mills and converting plants have cooperated, as well, in improving the moisture-proof and moisture-repellent properties of paper packages. In certain types of products that are impregnated and coated with wax, the efficiency of moisture-proofing influences directly the bacteriological results secured.

The improvements, therefore, that are chiefly responsible for lower bacteriological counts and greater cleanliness in paper products include:

- Production by mills of clean paper and paperboard, made from clean and sanitary materials under conditions of adequate microbiological control.
- Production of paper and paperboard suitable for efficient moisture-proofing.
- More satisfactory moisture-proofing of paper products by converters.

d. Developments in plant sanitation including devices and procedures for adequate sanitary protection of stock from contamination, dirt and odors.

Table 1 shows the general improvements that have taken place since 1937 in the bacteriological condition of paper containers for milk and milk products. The earlier data were secured while studies of methods and technic were being developed. In the tabulation, however, nearly all results are based upon procedures suggested in the latest edition of Standard Methods for the Examination of Dairy Products. It will be noted that in some cases data are available for one year only.

Plate counts obtained from rinse tests have proved somewhat less reliable and informative than the broth sterility test in revealing certain variations among different shipments. More recent studies show greater uniformity in bacteriological and sanitary quality than earlier ones. According to present indications, work now in progress will demonstrate even more definitely the uniformly high quality of these containers.

Other paper and paperboard products used in the packaging of perishable foods are also meeting high standards. Results that have been reported from this laboratory¹ show that the commonly used types of milk bottle caps, hoods and closures, tested by surface rinsing and contact culture methods, yield low bacterial counts. In a series of several hundred closures tested, 94 to 98 per cent gave counts of 4 colonies or less per container closure.

Studies are also in progress on liquid tight containers, widely used in the packaging of many foods including dairy products and frozen foods. Thus far, more than 1,600 cups and containers of various sizes, obtained from the regular production of several different plants, have been tested. The above table shows the results secured from rinse tests of 1,449 containers, including half pint-, pint-, quart- and 5-lb. sizes. It will be noted that nearly all of the counts are low. All but 32 of the 1,449 containers examined gave counts of less than 100 colonies per container.

The liquid tight containers tested are moisture-resistant but are not wax-coated like the various types of paper milk containers that (*Continued on page 106*)

¹ Sanborn, J. R., and Breed, R. S., *J. Milk Technology* (1941), 4; 63.

Don't Let It Happen Here!

by DENYS VAL BAKER*

Wartime economy is with us in Britain with a vengeance. In these last weeks there has been a much more rapid realisation of the government's many schemes for avoiding wastage of materials or manpower and hence speeding up the already tremendous war effort. Everything is rationed.

Soaps, face creams, lipsticks, bath powder, hair cream, shoe polish, furniture cream, hosiery, gloves, leather goods, cutlery and many other products of everyday use are all buried under a host of Control Orders, Limitations of Supplies pronouncements and so on. Most of them are appearing on the market in a quadruple-reduced quota of pre-war output, usually at three monthly intervals—when they are usually bought out of the shops within the first fortnight.

What I am trying to convey is the attitude of the consumer—his-not-to-reason-why—but just to take what he can get and be thankful. In other words,

Receptacles for waste on a dust cart in Cheltenham. Part of England's all-out effort against any waste. Wastepaper collection is already reckoned to have saved Britain 60 shiploads of paper.

BRITISH-COMBINE



what most advertising and marketing experts anticipated (grudgingly) is happening. The consumer is slowly, but dangerously, becoming brand-UNconscious.

It is a very awkward position for the branded goods manufacturers. Many of them are prepared to run purely goodwill advertising campaigns. But even that is now becoming quite difficult. There have been further reductions in the sizes of all newspapers, so that our national daily papers are down to four pages daily which means, of course, very stringent advertisement rationing.

Poster advertising has been banned entirely for the duration by the most recent Paper Control Orders, with the exception of that issued by a growing number of governmental advertisers, such as the Ministry of Health, Board of Trade, Ministry of Supply, Ministry of Labour. That same Paper Control Order cut down direct mail from its original 50 per cent quota of pre-war business to a mere 15 per cent. Further restrictions have been imposed on all forms of window and counter display.

The only remaining form of publicity is represented by the actual packaging of a product. But here the position is aptly expressed in a recent leading article in the *Economist*: "It is the advantage of branded goods in normal times that they are packed, tinned or wrapped in clean and convenient containers. Their price is fixed and their weight and contents are plainly stated. They save time and trouble. But in wartime, these are to a large extent luxuries—and wasteful. Paper, cardboard, tins, tubes, jars, bottles and all kinds of containers are precisely the things that properly ought to be economised. This is a problem not of status or prestige, important though these considerations may be, but of physical supplies. . . ."

This is a warning of what is coming: standard butter, standard margarine, standard cheese, standard cigarettes, standard soap and standard toothpaste. . . . These are all inevitable developments of a planned wartime economy. For instance, the British Standards Institution, who have only recently issued a graded list of standard containers for 60 products, may be expected to draw up an even more stringent list.

It will mean, for all hopes of goodwill advertising, the disappearance of many brand names, even of many famous ones. I believe that not only will many brand names fade out, but also that this reduction will con-

* Managing Editor, *Shelf Appeal*, one of England's leading packaging journals.

Many of the branded goods manufacturers run purely good-will advertising. These soap advertisements call public attention to the grave necessity for saving every possible scrap of wastepaper. Even such space is limited.

time after the war. I believe this because, by the end of the war, government departments will have complete control of the trade of this country—a control which will inevitably be retained, even if to a slightly less intense degree.

I recently had a chance of hearing F. D. Farrow and T. G. Green, executives of the Metal Box Co., Ltd., over here, discussing some of the very latest food packaging developments. Among these are the design and production of a wax-coated can for the export of beer and apple juice. It can probably be used for other substances which do not require more than a pasteurising temperature.

Britain is also now making her own phenolic lacquers for meat can bases (previously they were imported from America). With regard to paper containers for foodstuffs, a good deal of experiment has been going on to test the permeability of paper to moisture and new types of paraffin wax-coated containers have been produced which are practically watertight. This development has been necessitated by the tin shortage.

One fact of rather more general interest on the food packaging side is that during the last month or two—normally one of the quietest periods of the canning year—British canners have been busy turning out cans of soups intended as rations for the civil population.

The British Ministry of Food decided that the practical solution is to have emergency stores at strategic points of canned vegetable soups and stews already fully cooked and merely requiring to be warmed up. The soups are packed in concentrated form in A 2 1/2 cans (30 ounces) containing enough for six portions. The canners supply hundreds of thousands of cans.

While on the subject of foodstuffs, I feel I should make reference to one trend in the field of home-packaging. Normally, British housewives fill 100,000,-000 jam jars a year. This year, owing to the sugar shortage, only a small number is likely to be filled with jam. At the same time it would be a grievous waste to have these tens of thousands of jars standing waste. Therefore, there is a big drive to stimulate home-packing of fruit—something which has never previously caught on in this country. There is also a move towards home-packing of vegetables. One firm is offering for sale a snap closure device for utilising jam jars for fruit and vegetable bottling by vacuum sterilisation. There is also a possibility that this method may be found to be fairly satisfactory to protect bottled products in case of gas attacks.

There have been a number of other small developments on the technical side of packaging over here. On the actual production side, for instance, a number

of firms have been experimenting with dies made of specially hardened wood to take the place of metal dies which are now almost impossible to obtain. No particular difficulties appear to have been encountered, for the dies—being also used in aircraft and metal construction—are readily able to stand up to the pressures required for moulding soap tablets (one of the principal fields of experiment). Then there is the introduction of Hartolan, a new type of wool wax now made by Croda, Ltd., Hull, based, I believe, on a material which has been used extensively by Germany for many years. In addition to being useful in the actual production of products (toilet soaps, shaving creams, lipsticks, skinfoods, etc.), Hartolan can be used as a water-proofing agent, together with rubber and also for producing increased adhesiveness. It is also being used increasingly to replace lanoline as a protective coating for metals, etc., intended for display purposes.

The Ministry of Supply has now issued orders that cellulose acetate must not be used for packaging of any luxury or non-essential, home-trade goods. It is difficult to find a good substitute, but many manufacturers are pleased with the results of experimenting with the new W. 535 I.C.I. process—a process which treats paper and provides it with a moisture-proof

War industries can be kept going only through stringent civilian rationing, the British Board of Trade explains. In these last weeks there has been a much more rapid realization of the government's many schemes for avoiding wastage of materials or manpower and hence speeding up the already tremendous war effort.

film to make it permanently colourless and odourless. When heated the film becomes sticky and is used for fastening the paper to the baseboard in carton manufacture, automatically making the carton moisture-proof. The treatment can be applied quite satisfactorily to chipboard containers.

In the tin field, supplies continue to be scarce. No less than 80 products are "un-canned" and the use of tin is forbidden for display materials as well as for advertising and novelties. However, none of the restrictions applies to goods intended for export.

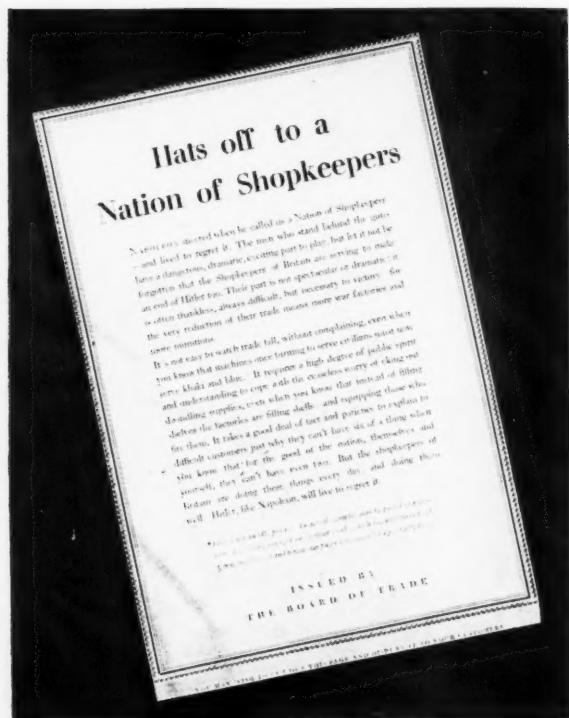
After 22 months of war the British paper box industry is down to grim realities. Ever since the loss of nearly 1,000,000 cwt. of board usually imported from Finland and Sweden, the supply position has become more and more serious. Several board manufacturers with whom I have discussed the position expressed their resignation to an almost complete cessation of board imports in the near future. This will mean a reliance on the home-produced chipboard.

Stocks of fibre-board, white-lined chipboard and manila are now practically exhausted. It is the plain unlined chipboard, 60 per cent of the content of which is made up of wastepaper materials, which is already the basic board. Supplies of this depend mainly on wastepaper collections. Early in the war some of the more enlightened mills—companies such as Thames Board Mills, Ltd.—launched their own "Save Wastepaper" schemes. Since then the Ministry of Supply has organized nation-wide collection schemes.

Every business house now makes a systematic collection of all wastepaper and stores it ready for the paper collectors. In banks, for instance, all branches have been instructed to clear out all papers and books from cellars and strong-rooms that go back beyond a certain date. This is in addition to the collection of ordinary current wastepaper. Shopkeepers save every possible scrap of wastepaper and waste wrappers. Housewives are urged to turn out all the paper, linen and old clothing they no longer require. Although authorities are agreed that the wastepaper collection is still nowhere near saturation point, it is already reckoned to have saved Britain 60 shiploads of paper.

Apart from the collection of wastepaper, the only other important source of supplies is in the newly developing straw field. National Farmers Union has signed an agreement with the new Papermakers Straw Trading Co. to provide about 250,000 tons of best quality straw, baled on farm. Paper trade experts expect to make between 75,000 and 80,000 tons of paper from home-farm straw every year. In addition to saving big shipping space, this saves nearly £2,000,000 in actual cost. Of course, the majority of this straw paper will be used for newspapers, but several mills are offering a British strawboard which can be used for cartons and will take printing.

Box makers and the carton firms must now submit all orders to the Ministry of Supply whose permission is necessary in the form of a special licence before a job can be undertaken.



The Ministry of Supply is continually urging carton makers towards economy measures. Thus, many firms are reducing the size of laps, tuck-ins and are adopting standard sizes of boxes. Smaller boxes are used where possible but the trend will be ultimately to very large bulk boxes. In one of my earlier Modern Packaging articles I drew attention to the display container produced by William Cleland, Ltd., for packing bulk quantities of toothpaste tubes, which cannot now be wrapped individually. It is this principle, featuring inside fitting to protect the delicate tubes from damage, which will be extended more and more. The bulk trend is also noticeable in the cigarette trade. Manufacturers are already preparing cigarettes in large 500-, 1,000- or 2,000-unit boxes from which retailers will distribute them in paper bags. The same trend also applies to biscuits, chocolates and sweets. In many of these trades rigid chipboard boxes have replaced tins.

There have been rumours that the board mills would introduce a standard single grade of box-board—either a thinly lined or a completely unlined chipboard. Fortunately, a number of our firms have visualised this and by experimenting with these unlined chipboards, they have discovered methods of rendering the material—normally a depressingly dull and cheap-looking grey—into something of a packaging attraction. Box-foldia, Ltd., has made a specialty of combining a chip base with a thin white paper and giving quite a good printing surface that suits multi-colour designs. A more favoured method now is to colour the unlined chipboard direct. Here the experiments of several printing firms have resulted in some surprisingly good effects. For instance, in the folding box field, nearly all cereal cartons are now made of this cheap unlined chipboard and over-printed in colours. Once the eye has got accustomed to the background of coarse grey, the pack does not seem to lose much display value—especially since there is no comparison with a better type of competitive pack, because all are in the same boat. Another carton firm, D. Smith and Sons, Ltd., has evolved a method for treating unlined chipboard so that it is given a white wash coating which will take printing.

Incidentally, the enforced concentration on unlined chipboards has resulted in the introduction of bold, simple designs which make up for much of the lost decorative value.

Apart from supply, product and similar problems, there is the very important one of labour. Paper box is not regarded as an essential trade—at least, not on any large scale. For instance, the lowest reservation age for men in any of the various sections of paper box production is 35 years. Many firms lost their ablest men.

Here are some comments by D. Smith and Sons, Ltd.: "We have a terrible shortage of labour . . . This applies especially to tube-making machine workers, cutters, etc. Many men experienced in these sections have gone on to munitions works whether they are able to earn huge wages, owing to their technical skill. And the position is not relieved by girls. . . . They have gone into N.A.A.F.I., A.T.S., bus conducting, etc."

Are we getting
YOUR empty boxes?

All Traders are earnestly
asked to increase their co-operation
in our Retained Empty
Box Scheme, and so SAVE
SHIPPING SPACE on imported
material. The procedure is
simple:

- 1. BOXES REQUIRED**
All used boxes in good condition bear
the stamp of the following marks:
SPECIAL MARGARINE
STANDARD MARGARINE
COMPOUND WORKING FAT
or
1. White Board 12-lb. or 24-lb. boxes
or
2. White Board 12-lb. or 24-lb. boxes
or
3. Cartons 12-lb. or 24-lb. boxes
or
4. White Board 12-lb. or 24-lb. boxes
or
5. White Board 12-lb. or 24-lb. boxes
- 2. BOXES NOT REQUIRED**
- 3. METHOD OF COLLECTION**
Each payment is given by one Coffey
trader at a fixed scale of payment. Boxes are
collected by the Coffey trader or by one of his
agents. If in doubt, write to our special
Coffey Office. If in doubt, write direct
to your local Marcom Area Office. Or
speak to our Representative.

Every box sold to other sources
hinders the distribution of a vital food

* HELP US TO DELIVER your supplies by making YOUR Boxes 100%

MARCOM LTD.
HEAD OFFICE: 1 WATERGATE, LONDON, E.C.4

Used containers of all kinds—cartons, boxes, jars, cans—are wanted for refill use. Because of shortages, business houses have had to find wartime substitutes for their former packaging materials. For instance, the limited supply of tin forced the cosmetic firm below to promote saving of tin containers by providing them with refill apertures and selling paper refills.

REFILL
for
YARDLEY
TALC

No 1608R.
Retail 3.6d.
Retail 1.8d.
No 1608.
Retail 2.6d.
Retail 1.3d.

There is no tin to spare so we've produced a substitute
package (No. 1608R.) to retail at 2.6d. (It contains three
times the quantity of the 6d tin, retail 1.8d.)

The limited supply of tins we can obtain are now
made with an aperture in the base for refilling. A new idea for
talc, it is one which is well worth showing to your customers.
All the small tins have the refill base, but in the large size, only
Lavender, 1.3d. (retail 3.6d.) has this new feature.

We shall welcome your orders for the refill
package, which is obtainable in Lavender,
April Violets and Rose.

Yardley

YARDLEY - SAVILLE HOUSE - 40 PICCADILLY - W1

Packaging Pageant



3



4

1 Helena Rubinstein puts teen-age cosmetics into a Young Complexion Kit of vibrant red simulated leather which can be carried like a purse. Straps and pockets of the material keep each article in place. One side of the kit is held up by snaps to permit quick access to the contents and a cut-out snap fastens the top. Bag by A'cadia Cosmetic Kit Co.

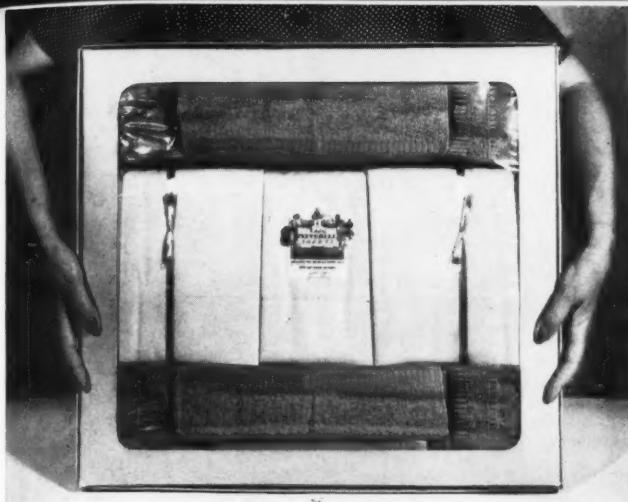
2 Colorado Milling & Elevator Co. stresses kitchen-convenience in its new two-color Pikes Peak Cake Flour carton. A transparent outer wrapping protects the inner package until it reaches the home kitchen and a tuck-in flap keeps the flour clean when it is stored in the cupboard. Box by The Warneke Paper Box Co. Label design by Eugene S. Blish. Lithography by Bradford-Robinson Printing Co.

3 Beautiful bindings are visible and not hidden from sight in rigid transparent book covers recently adopted by the Limited Editions Club. The new cover, which replaces a former conventional cardboard slip case, thus shows new versatility for transparent materials. Rigid transparent sheeting by Monsanto Chemical Co. Box by Shaw Paper Box Co.

4 This striking gift box holds three pairs of Bijou hosiery separately wrapped in cellulose envelopes printed in beige and gold. The set-up box has a highly glossed gold and cream striped cover and all-gold base with trade identification. Each pair of hose has attached the maker's seal clearly visible through the cellulose. Box by The McClintock Corp.

5 Sheets, pillow cases and washcloths are glorified in a giant Pepperell gift package. A huge transparent window, $15\frac{1}{2}$ by 18 in., of cellulose allows the shopper to see the riches within and affords the manufacturer a prominent place to display his traditional label. Folding box by Robertson Paper Box Co. Cellulose by Celuloid Corp.

6 Fishline by the Norwich Line Co. makes its appearance in a handsome black and silver box. Transparent sheeting covers the cut-out area and is held in place by an overall lamination of silver paper stock. A slip-over cover of paper-board and the box base are covered with green high-gloss paper.



5

Transparent acetate sheeting by Eastman Kodak Co. Box by Flower City Specialty Co.

7 Brick samples gain eye-appeal. That's news. The Mexico Refractories Co. shows its samples in a rigid transparent acetate box. This unusual, dramatic method of presenting a commonplace article is effective in impressing the customer with the high regard both maker and salesman have for their product. Box by Central States Paper & Bag Co.

8 An example of good descriptive labeling is found on a container which introduces Continental Oil Co.'s Conoco Nth motor oil to consumers. Six square inches of the 1-qt. package and 18 inches of the 5-qt. package are devoted to a separate panel on consumer facts regarding the product. Package design by Tracy-Locke-Dawson, Inc.

9 Beauty in a nutshell is literally true in a huge walnut-like kit that Dorothy Gray, Ltd., is presenting to acquaint everyone with her nut brown red harmonized make-up. Lipstick, nail polish, dry rouge and face powder are in the shell.

10 Architects' samples get hard wear and their presentation in an interesting manner by salesmen is difficult. The Fir-Tex Insulating Board Co. wraps its samples of insulating board in cellulose. This covering sets apart each separate item and draws the attention of the architect to it as the salesman shows his line. Cellulose by Sylvania Industrial Corp.



6



7



8



9



Designed for career girls

Ault & Wiborg Carbon & Ribbon Co., Inc., makes a line of carbon papers and ribbons that never come to light of day on a stationer's counter. They are sold directly in large quantities to banks, insurance and manufacturing companies. They are bought by wary purchasing agents. They are used by women—thousands of secretaries, bookkeepers, stenographers and typists.

This woman's angle is a very important matter. For if these women consumers don't like their office supplies, the purchasing agents soon hear about it. This is why Ault and Wiborg has given such particular attention to packaging. This company knows that the appearance and construction of its packages have a tremendous influence on their sale to this army of business women.

Such is the behind-the-scene reasoning for the striking new red, white and black packages illustrated here.

Requirements were for packages: that would appeal first to purchasing agents; second, that would appeal to the women consumers who use the products; third, that would arrive in the hands of the consumer in the best possible condition; fourth, that would have easily recognizable product identification on store-room shelves, and fifth, that would associate the company's products with a distinctive color scheme.

First group redesigned was typewriter carbon paper. The company's old boxes, as may be seen on page 55, were hit and miss with no definite family tie-up or color scheme. The company experimented for practically a year before it made a selection of what it felt was the best type of container and carrier for carbon paper.

"It was somewhat less expensive to make a carbon paper box using the label as a complete outside cover, including edges similar to those previously used by us,"

said L. C. Ball, President of Ault and Wiborg, "but we found that no matter what paper or ink we used, there was usually rubbing at the edges, especially near the corners where the paper was turned over, when these boxes were put into corrugated cartons for shipment. Therefore, we went back to the original type of carbon box with skytogen edges and pasted-on label on top."

Instead of a half dozen different fancy boxes for its various kinds of carbon paper, the company selected one box to which it affixed one carefully designed label. Inspiration for the red, white and black color scheme came from the packages of Rux-tone artists colors, made by the Ruxton Products, Inc., which like Ault and Wiborg, is a subsidiary of Interchemical Co.

Because of their simplicity and memorable family color scheme, the new Ault and Wiborg carbon paper boxes have excellent brand identification. The various kinds of carbon paper are easily distinguished by a variation of end labels on the boxes. Thus, the company can operate with a minimum stock of boxes. All they have to do is to use the same box and family label on all, with special end labels for each different kind of carbon paper. This eliminates the stocking of six or eight completely different boxes as was done formerly.

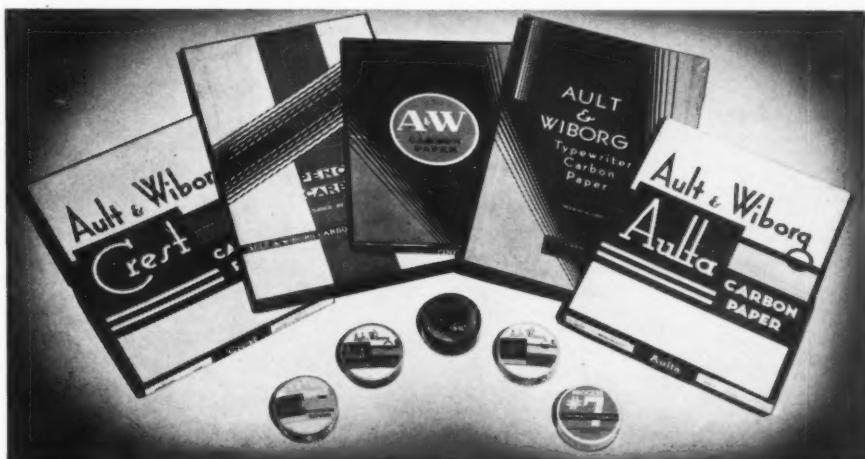
This is the way Ault & Wiborg packages looked before they were redesigned in the attractive group you see on the opposite page in black, white and red array. On the old packages different color combinations were used, which were costly and lacked good brand identity.

The same color scheme has been adopted for tins containing typewriter ribbons. These stick pretty closely to one design with slight variations to distinguish the various kinds of ribbons. On the old cans, different color combinations were used for each different ribbon, which was costly and furnished no family tie-up. A dozen of the tin containers are packed in metal-edged folding cartons. The design for these is similar to the carbon paper boxes. These metal corner cartons offer a big advantage since they may be purchased blank and flat, then set up in the company's own factory. This saves a great deal of storage space.

Within the past few years Ault and Wiborg has also adopted three metal containers for special-size ribbons. These were a forerunner of the whole line of design. At some future date the company may decide to tie them in a little more closely with the new carbon paper boxes and ribbon cans.

A collapsible container for billing carbons in rolls has also been designed in keeping with the ribbon boxes and ties in reasonably well with the picture as a whole.

Credits: Carbon paper boxes by C. W. Zumbiel Co. Metal-edge cartons by The National Metal Edge Box Co. Ribbon cans by Decorated Metal Mfg. Co. and J. L. Clark Mfg. Co.



For carbon paper the company selected one box with a paste-on label. The various kinds are identifiable by a variation of end labels. Tin typewriter cans are packed in metal-edged folding cartons, purchased flat and set up in the company's own plant to save space.



Foot Soldiers

The soldier just returned to camp from army field maneuvers is inclined to look with jaundiced eye upon anyone who quotes the remark of a famous authority to the effect that an army travels on its stomach.

Dr. Scholl's Foot Comfort Kit is designed to fulfill the current need for adequate foot care for young men recently inducted into the army.

Contents include a roll of foot plaster in a metal tube and foot powder in a metal can. Balm comes in a convenient glass jar with a metal screw-on top. The jar together with a leaflet of instructions fits into a cardboard carton. There are 16 individually wrapped adhesive tape bandages in another small carton. All carry out the familiar yellow and turquoise color scheme. These aids to foot comfort are arranged compactly in a handy, approximately 9 by $3\frac{1}{2}$ by 2 in., simulated leather case with a snap-flap. Inner cardboard platforms hold the various articles in place, while a cardboard lining for the back and top in red, white and blue illustrated with soldier and sailor figures holds up the top of the case to reveal contents and serves as an informative poster for counter use.

DESIGN HISTORIES

Cake Guards

Suburbanites no longer need go dripping home with an appetizing but juicy fruit-topped cake. Cushman's Sons, Inc., have adopted a clear transparent ring of cellulose acetate sheeting which protects their delicate cakes from the rigors of traveling. The collar or ring holds the cake firmly and prevents any spilling of fruit juices or damage to decorative icings. It may be removed from the cake easily by the purchaser.

Heretofore, in order to keep the cake as intact as possible until the customer could arrive home with it, the baker made a thick heavy crust. But the cakes toppled over and juices seeped through the pastry walls. By the time the cake was placed on the table, it had lost a great deal of its palate appeal.

Now, with a sturdy shield of cellulose acetate to protect it, the householder not only carries the cake conveniently, but also is assured it will appear as attractive at his own dinner table as it did in the shop. The transparent bands come to fit any size cake.

Credit: Collar by Allvee Container Corp. Cellulose acetate sheeting by Celluloid Corp.



Hat Box

For many years hat boxes were purely functional. Then the trend to more attractive containers for individual hats and stock supplies often resulted in discarding utility value for appearance. The removal of conventional markings to indicate stock contents created a difficult stock checking problem. In this Resistol hat box use and attractiveness are combined.

Now, instead of the old style spaces for size, the Resistol box has four small spaces in which the lot, size, quality and price of the hats are rubber stamped. Between these items, one above the other, is a strip bearing all the necessary descriptions. This strip, at the base of the box, blends into the background color and holds specially die-cut size markers, one for each hat. When one or more hats are removed from the box, the related size marker is taken from the strip and placed on the hat in the usual stock manner. Absence of markers indicates an empty box.

Credit: Boxes by Byer-Rolnick Co. Label by Egan Printing Co. Maroon and trim stock by Middlesex Paper Corp. Markers by C. N. Clark Co.



DESIGN HISTORIES



Souvenir Soap

Modern hotel guests often take small bars of soap away with them for souvenirs or for use at their next stop. The realization of this fact gave the management of the Hotel Continental, Kansas City, Mo., a clever idea for institutional advertising.

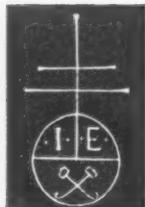
The hotel was already using individual cakes of soap in every bathroom, but there was nothing distinctive about them. There was certainly nothing to remind the departing guest of the hotel at which he had stayed. The Continental, therefore, introduced its own miniature oval-shaped bars wrapped in cellulose.

New arrivals at the hotel always find two fresh bars in their bathrooms. Partially used cakes are immediately replaced. Guests upon leaving receive a 3 by 4 in. transparent plastic acetate box which holds two bars of soap. Across its transparent wrapping, each bar bears a blue label with the crest of the hotel.

The management reports that 70 per cent of the guests presented with the clever gift made later visits.

Credit: Transparent box by Central States Paper & Bag Co.

Nabisco



1481



1900



1918



1941

National Biscuit Co. recently took an important step by adopting Nabisco, one of the oldest trade names in packaging history, as the over-all family name for the more than 500 varieties of crackers, cookies and cakes it produces.

Eventually, Nabisco will appear on every label and every package that goes out of the National Biscuit Co. bakeries. This means a change on all the familiar red labels with which the company's products are identified, as well as countless changes in package wrapper designs to fit into the new plan. So skillfully have these change-overs been accomplished that few will be conscious of them.

National Biscuit Co. holds tenaciously to its traditions. This red trade mark is such an integral part of the company's growth and the history of packaged grocery merchandising that to change it drastically would have been industrial suicide.

The new trade mark, incorporating the word Nabisco, therefore, is as nearly like the red In-er-seals on the early Uneeda Biscuit packages that appeared in Chicago in 1900 as it was possible to make it. This was the world's first five-cent package of crackers. Before Uneeda biscuit, soda crackers were sold in barrels and bins. Hands dipped into them; mice scurried through them, and the crackers on the bottom crumbled to dust. Uneeda Biscuit marked the end of anonymous crackers and was a forerunner of branded merchandise of every kind in clean, sanitary, factory-fresh packs.

The original trade mark was selected by Adolphus W. Green, at that time Chairman of the Board.

A Bostonian and a

scholar, he found in an old book in his library a medieval Venetian printer's mark—a circle with a cross above it signifying the spiritual world over the terrestrial. This he adapted to "In-er-seal," the selling feature of his new sanitary package, which consisted of pulp-board treated to resist moisture, folded around a paraffin lining—the basic principle of National Biscuit Co. carton wraps today.

Nabisco had its origin as the name of National Biscuit Co.'s famous sugar wafer. Now in the oval of the trade mark it becomes a famous package family name.

It will probably be a year before all the products carry the new trade mark. The biggest change involved a complete redesign of the Nabisco package which is now called "Nabisco Brand Sugar Wafers." The new trade mark appears on all the cardboard tabs of the company's cellulose bag wraps. It also appears on all the newly designed wrappers and bags.

The use of these red trade mark labels provides an unmistakable brand identification for the company's hundreds of products without need for other family tie-up. This is exceedingly important, because the company has discovered that a wide variety of color and wrapper design is more desirable for food products of this type than a unified family tie-up. National Biscuit Co. products in modern markets are usually displayed in special departments where a wide variety of packages offers greater sales appeal to the consumer who helps herself than if the packages were all the same color and design. It also provides a brand tie-up between such famous packages as the Uneeda Biscuit carton with its Grolier border, the



red graham cracker box, the Shredded Wheat carton with its illustration of Niagara Falls—designs which will never be relinquished or changed without a great deal of consideration.

However, the company has a packaging committee, constantly watching packaging trends. Although the committee retains the old designs, it is alert to the demands of modern merchandising. Note, for example, the use of recipes on the sides of the graham cracker cartons, the use of poster-type illustration and color

photography on other old favorites for display effect.

The redesign of the trade mark is offering a new opportunity for a complete review of all the company's packages and many improvements are being made. The fact that National Biscuit Co. produces more than 500 varieties will give you an idea of the magnitude of the problem. Furthermore, the change-over must be tied in with an educational program for the public and for sales forces at 252 branches which the National Biscuit Co. operates throughout the entire country.

OLD **NEW**





This walnut-finish chest is designed to hold a toaster, waffle iron and flat iron. On a dealer's counter it encourages the sale of a three-item wedding gift, provides the recipient with a handsome storage container which has a variety of re-use purposes.

Electrical trousseau

Brides like electrical appliances for wedding gifts. Recent surveys show that approximately two-thirds of the small appliances purchased are for gifts and of these gift purchases 35 per cent are for wedding gifts.

To win a larger share of this business, Landers, Frary & Clark, New Britain, Conn., manufacturers of Universal appliances have introduced what they call an Electrical Trousseau—gleaming appliances such as toasters, flat irons, waffle irons especially packaged to attract wedding gift shoppers.

One of these packages is a handsome walnut-finish wood chest. This is designed to hold three items—a toaster, waffle iron and flat iron. This encourages the purchaser to buy three items in order to obtain the chest which not only serves as an attractive adjunct for the gift, but also as a storage container for the appliances in the home, as well as a beautiful re-use container for a variety of purposes. The other packages are show boxes of rigid transparent acetate, each housing one appliance under a hood shaped to follow the contour of each appliance.

The packages are offered to dealers for the purpose of establishing permanent bridal centers in their stores, where the Electrical Trousseau can be displayed

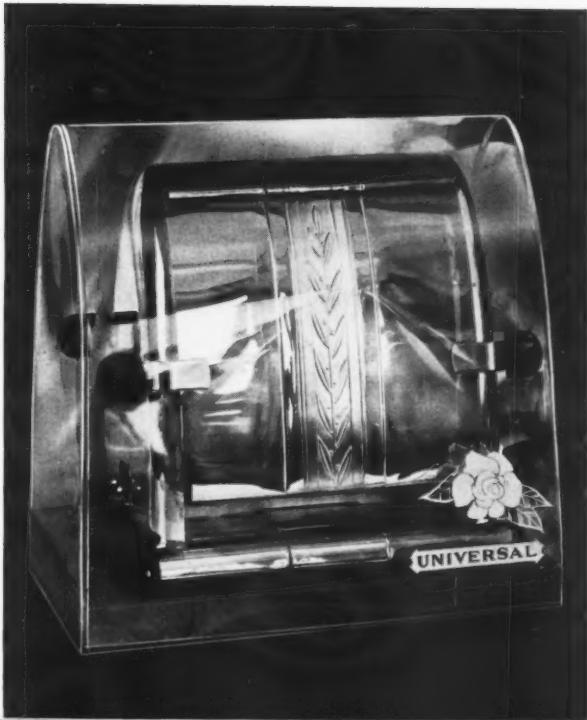
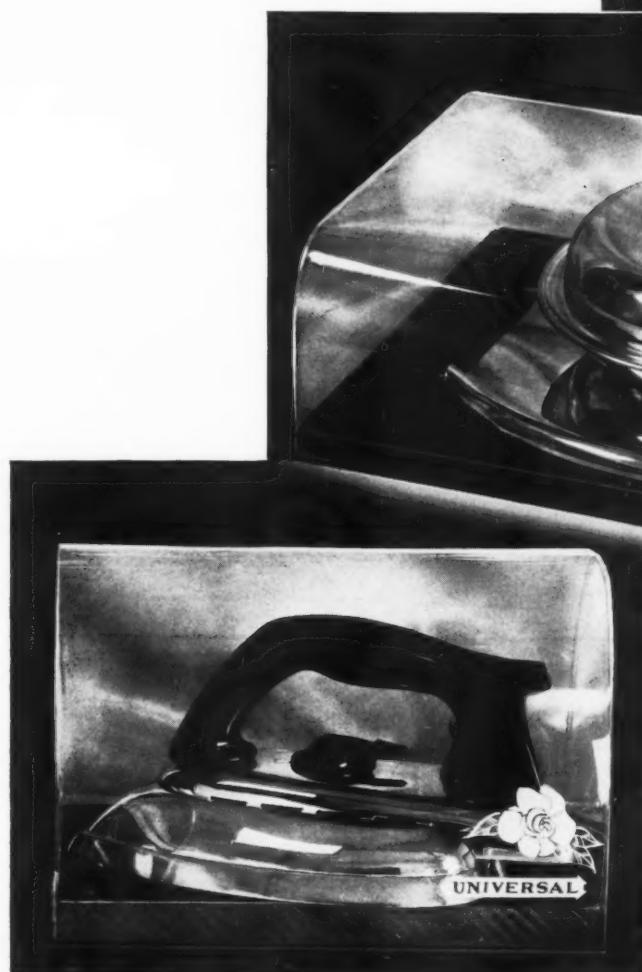
throughout the year. Contrary to the popular theory that June is the bridal month, figures show that weddings are spread much more evenly throughout the year than is generally supposed. It was with these figures in mind that Landers, Frary & Clark presented this year-round gift merchandising plan. Furthermore, the company believed that such a promotion would be most helpful to their dealers, the majority of whom are electrical and hardware stores—not department stores, which usually have their own facilities for this type of promotion. The company believed that their dealers would welcome the opportunity of purchasing these gift packages to give added eye appeal and could easily afford to throw in the cost of the chest or transparent box to make a sale in view of the favorable mark-up on this class of merchandise.

The Electrical Trousseau is tied in with a carefully planned national advertising and promotional program to assist dealers in making the most of it. A dramatic brochure titled, "You're the next to profit from a wedding," introduces the bridal packages to the dealers. This lists the various items which are so packaged and how they may be purchased. It contains descriptions and illustrations of the promotional material and dealer helps available. For example, there is a booklet called

"Your Bridal Sketch Book," giving hints on how to choose the Electrical Troussseau, what to look for in appliances and how to use them and care for them to get the best results. This is a mailing piece that goes to young women in the community who have just announced their engagements. "So you're going to a wedding," another folder, may be used as a give-away or as a mail-piece. Display cards, radio commercials and mats for local newspaper advertisements complete the follow-through of the promotion. So far it is too early to give results of this activity, but indications are that it has started something new in presenting appliances as gifts and it has received much favorable publicity everywhere.

The company is convinced that the \$500,000,000 "newly-wed" market each year is worthy of its best efforts to help dealers sell more and more of its small appliances as shower, wedding and anniversary gifts. For the basis of this entire activity, they have selected streamlined modern packaging.

Credits: Chests by C. E. Schunack Co. Transparent material by Monsanto Chemical Co., Plastics Division. Set-up boxes by National Transparent Box Co.



Electrical appliances in rigid transparent show boxes bring new glamor to year-round bridal promotions in electrical and hardware stores. These boxes are made available by the manufacturer to dealers at attractive prices and add eye-appeal to this popular wedding-gift merchandise. With these gift packages, the manufacturer supplies a complete program of dealer sales helps, newspaper mats and radio commercials.

V-BELTS IN BOXES



collecting tangle of loose belts, you will find in dealer outlets for this company, neat, colorful shelf arrangements and counter displays of modern packaged merchandise. They will dissipate quickly the opinions of doubting Thomases who say that streamlined packaging methods which characterize department and chain store promotions have failed to be incorporated into methods of less publicized retail outlets.

The whole idea started on a hot summer day when a sales-minded executive of The Dayton Rubber Mfg. Co. wrote a letter to a supplier of modern corrugated boxes. He wanted to know if it would be possible to reproduce his company's trade mark on a series of six small corrugated boxes. Back came the answer, "It's not only possible, but it's practical, will prove profitable and here's the design that will make it so."

With that the wheels were set in motion. A color scheme and design were selected for the packages. The result? The company built an outstandingly successful promotion around its new series of six colorful orange and black corrugated packages. They won distributor support and increased sales in one swoop.

To dramatize the advantages of this new packaging as a merchandising adjunct, the company issued an ingeniously designed booklet with cover of corrugated board, die-cut, printed and made to duplicate the actual packages. This natural attention-getter started off the promotion with a bang. With a quick follow-up

Until the summer of 1940, The Dayton Rubber Mfg. Co., Dayton, Ohio, sold its various lines of V-belts in bulk. These loose belts made dealer stock rooms look like harness shops. Sales clerks got tangled up in them. Customers couldn't see them until clerks got them untangled, dusted and out into the front show rooms. Sizes got mixed up and inventories were a nightmare.

Today all this is changed. In less than a year the whole problem has been solved by six modern corrugated boxes. Instead of the difficult-to-handle, dust-

of actual demonstrations and facts to prove that this new package would help sell more merchandise, the promotion was soon running along at a rapid pace.

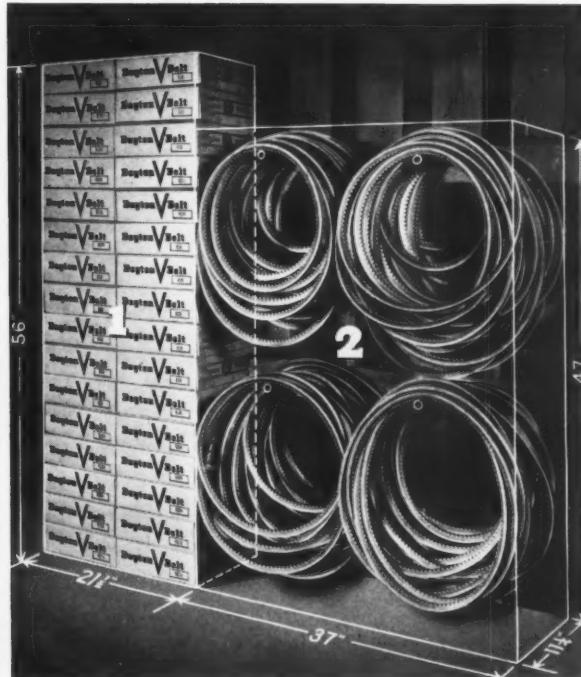
Essentially, the advantages as pointed out to distributors are these: first, in the company's new package program, each V-belt is boxed individually in a substantial, compact corrugated package. This makes possible efficient, orderly arrangement of V-belt stocks, makes for easy handling and, by protecting merchandise against dirt, dust and other foreign substances, keeps the stock fresh and in first-class salable condition.

A second important advantage is that the new packages effect as much as a $33\frac{1}{3}$ per cent saving in space. As shown by tests, one group of V-belts stocked on wall hooks in the conventional method required 19,564 cu. in. of storage space. The same belts, boxed in their new corrugated packing, occupied only 13,545 cu. in. Another group on wall hooks required 7,277 cu. in. of space, but in the new corrugated boxes the same number of V-belts took up only 4,826 cu. in. of space.

On the opposite page, a close-up of a modern, practical corrugated pack that simplifies handling, stocking and distribution of industrial V-belts. It not only creates sales appeal, but needs no wrapping, saves time and material. Right, for convenience in taking inventory, the V-belts are packed ten of one size in a clearly labeled carton. Below, the old and the new way. Loose belts made stock rooms look like harness shops. Today, the boxed merchandise (1) takes up 13,545 cu. in. of space; formerly (2) it took up 19,564 cu. in. Result— $33\frac{1}{3}$ per cent space saved.

Printed in bright orange and black, the boxes lend themselves to attractive shelf arrangements and counter display. Inasmuch as box sizes range from $7\frac{1}{4}$ in. by $7\frac{1}{4}$ in. by $2\frac{1}{4}$ in. to $11\frac{1}{4}$ in. by $11\frac{1}{4}$ in. by 3 in., a wide range of belt sizes can be stacked readily in attractive set-up displays. These displays offer the purchaser an opportunity to see and examine the merchandise without the sales person having to take belts out of the packaged stock. After sale no further wrapping is necessary. In fact, many distributors sell directly from display and replenish the stock in the display as needed.

By careful choice of box sizes, the company is able to pack 34 different belt sizes into only six different-sized boxes. Furthermore, the boxes are designed so



that they can be grouped in units which fit conveniently into standard shelving space.

For additional convenience in handling, stacking and taking inventory, ten V-belt packages containing the same size belt are packed for shipment in a master corrugated shipping box. To facilitate quick matching and packing of belt sizes, each shipping box, package and belt carries a matching number. The master shipping boxes carry identification copy and trade mark clearly printed in orange and black on large labels. These shipping boxes offer an excellent means of keeping inventory of stock, since each such container holds a definite number of belts and it is merely a matter of counting the shipping boxes to know the entire quantity of stock. While from a retail sales viewpoint the major advantage of the new Dayton V-belt corrugated package may lie in its ready adaptability to colorful counter displays and attractive eye-catching shelf arrangements, the practical advantages of the package run a close second. Easier handling, simplified taking

of inventory, saving of storage space, protection of merchandise and elimination of re-wrapping all add up to save the distributing outlet time and money.

All in all, this company's experience in adapting "department store corrugated packing methods" bears out the package suppliers' contention that modern packaging programs are "not only possible, but practical and will prove profitable" for manufacturers in this and related fields. The use of factory pre-pack in corrugated materials is increasing for a continually widening list of different types of products. Development of attractive color printing for product and brand identification on this type of pack also enhances the possibilities and promotional effects that may be achieved. A careful balancing of the costs of such packaging with costs of handling, damage, inventory and other operations involved when such packaging is not employed usually favors the packaged procedure.

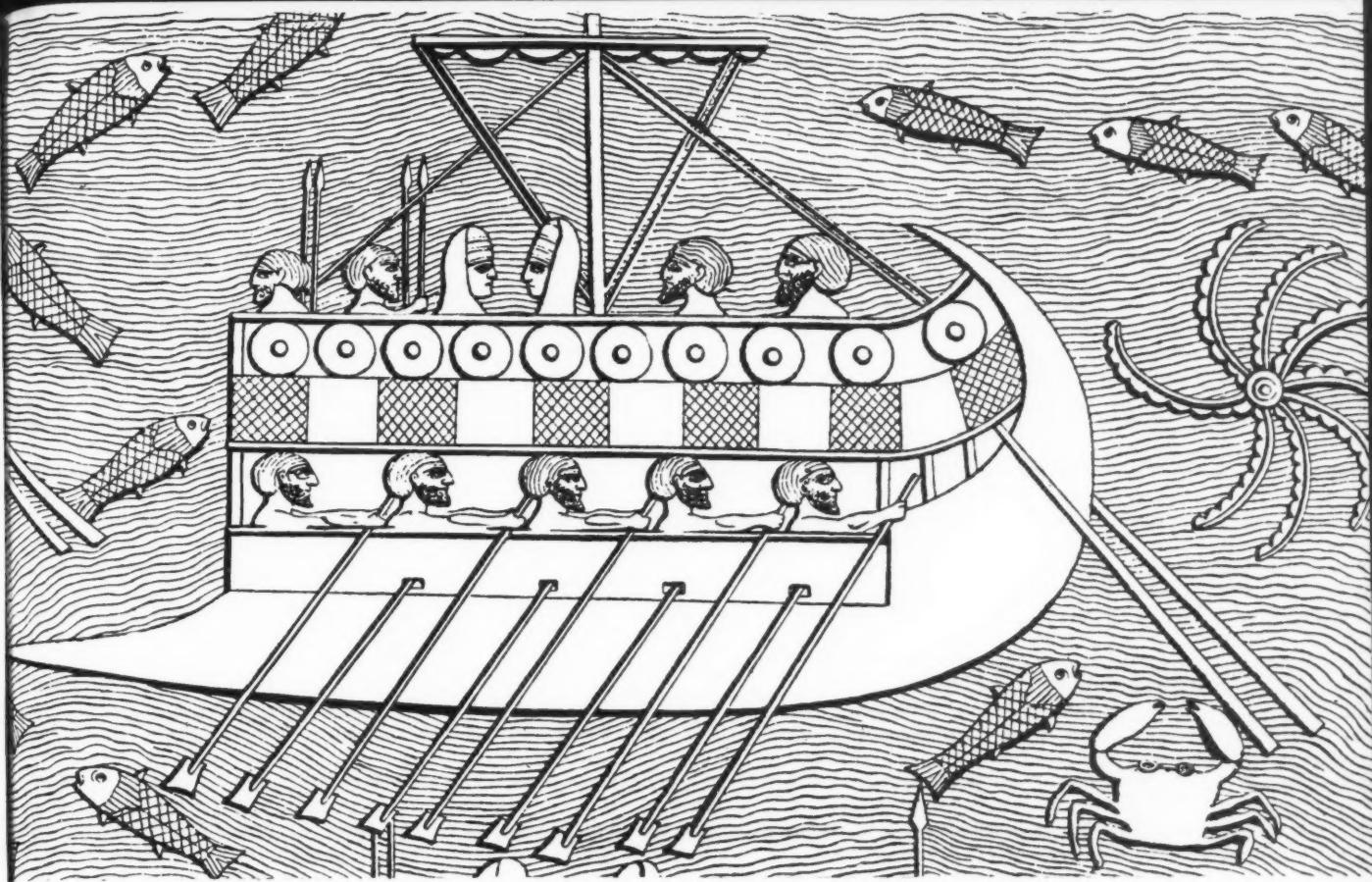
Credit: Corrugated boxes and shipping containers by Hinde & Dauch Paper Co.



Counter displays of the belts out of their boxes are sufficient to allow the customer to see what he is purchasing, while the remainder of the stock remains factory-fresh in its original packing, clearly marked and easily identifiable.



The colorful orange and black package on counters and in windows performs its selling job simply, directly and economically. The boxes are an excellent example of the brilliant colors now available on printed corrugated materials.



If You Had To Wait--

If we delivered by bireme (the double car rowed Phoenician ship) instead of lake steamer, rail and truck, you'd have a mighty long time to wait for your packages. Your merchandise would spoil and your markets would melt away before you got what you needed.

And our high-speed automatic production of set-up boxes, rigid transparent boxes, folding and display cartons would be completely useless. There would not be much point in developing and building our own equipment to bring you

packages economically and on time if we hadn't the means to deliver the goods.

Happily, our location is central and adjacent to modern, high-speed rail, highway and water transportation. Not only do we produce packages in great quantities and rapidly, but we offer overnight deliveries to many key packaging points in the East, Middle West and East Central districts, as well. Our ability to meet the production demands of the largest mass packagers *on time* has been one reason for our steady growth.



F. N. BURT COMPANY, INC.

500-540 SENECA STREET, BUFFALO, N. Y.

NEW YORK CITY
630 Fifth Avenue
Room 1461

PHILADELPHIA
A. B. Hobel
P. O. Box 6308
W. Market St. Sta.

NEW ENGLAND
J. Anthony
491 Main Street
Cambridge, Mass.

ST. LOUIS
M. P. Yates
315 Chestnut St
Room 125

ATLANTA, GEORGIA
Mr. W. B. Branch
Candler Building

CHICAGO
919 N. Michigan Ave.
Room 2212

CLEVELAND
W. G. Hosen
P. O. Box 2445 Telephone: E. Cleveland, Ohio

CINCINNATI
Elmer J. Schwartz
1135 East 60th St.

NEW ORLEANS
Sydney S. Levy
419 W. Fifth St.
Main 0367 509 Audubon Bldg. 268 Madison Ave.

MEMPHIS
W. F. Shepherd
509 Audubon Bldg. 268 Madison Ave.

MINNEAPOLIS
J. E. Moor
3329 Dupont Ave. South

KANSAS CITY
Elmer J. Schwartz
1135 East 60th St.

A. G. Spilker
P. O. Box 126

DANVILLE, CALIF.
(near San Francisco)
Donville 27

CANADIAN DIVISION
Dominion Paper Box Co., Ltd.
449-483 King Street, West
Toronto 2, Canada

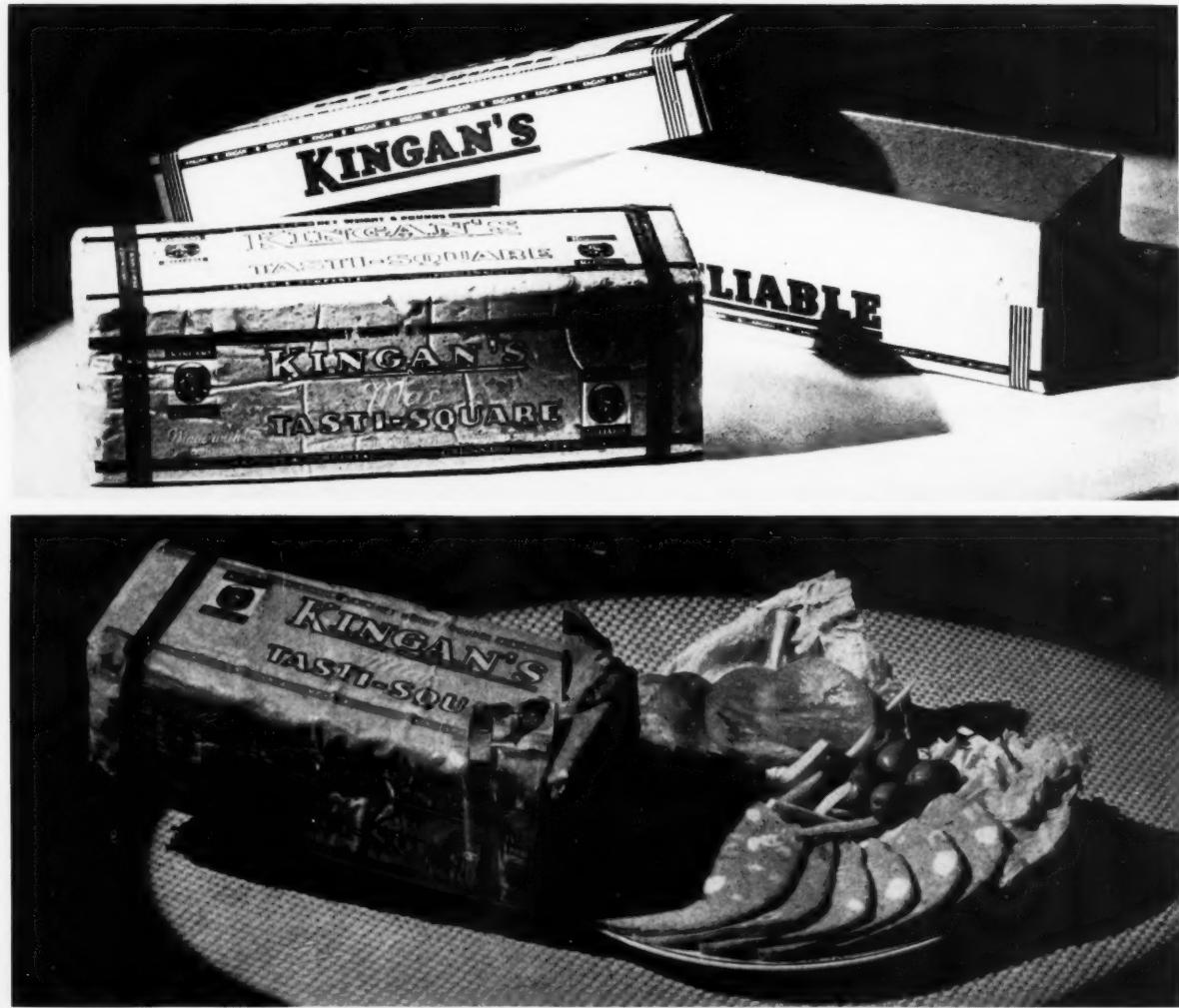
Cooked in its wrapping

The unique properties of transparent protective film and months of laboratory research by Kingan & Co., Indianapolis, have resulted in a new development in the field of cooked meats, both as to method of preparation and packaging. Because it is air- and moisture-proof, impervious to normal boiling temperatures and possessed of considerable tensile strength, this transparent protection makes it possible to cook the meat in the package. Kingan's Tasti-Square meat loaf is filled into the transparent casing by machine from a nozzle stuffer. The ends or ears of the casing are then sealed. The completed hermetically sealed packages are then cooked and placed in boxes.

The entire operation is sanitary without any possibility of contamination through human handling. Flavor and full food strength are sealed in, since the

moisture-proof casing prevents the loss of any flavors, juices, vitamins and chemical contents during and after the cooking procedure. Because of the casing's transparency, the appetizing appeal of the contents is visibly displayed to the consumer. There is no shrinkage either during or after processing. Due to the casing's inherent moisture-proofness, there is no moisture loss or other evaporation. Thus, the product is assured continuous freshness, uniformity of size and composition of the loaf with no weight loss during the marketing cycle. The Tasti-Squares are prepared in four varieties: pure pork, a salami type, pimento and pistachio nut loaf, and a meat, macaroni and cheese mixture.

Credit: Protective film by The Goodyear Tire & Rubber Co., Inc. Casings by U. S. Envelope Co. Collaborating Designers, Neostyle, Inc. Boxes by Ohio Boxboard Co.



WE SPENT \$50,000 to Save You Money!



ANOTHER original CCS contribution to Closure progress is *Orolac* . . . a specially coated foil liner, made to replace liners that cost you more money.

Orolac is made from a \$50,000 formula and while it is not offered as an *hermetic seal*, it does have many of the advantages of a rubber ring!

It is especially suitable for packers of syrups, cherries, salad dressings, mayonnaise, horseradish, sweet wines and whiskey not over 100 proof.

An *Orolac* liner consists of an even coating of *Orolac* on each side of aluminum foil (.001) and bonded to a white pulp board.

Unbonded to the board, *Orolac* foil, coated with non-toxic thermoplastic adhesive, makes an inner tamper-proof seal for hot-packed syrups.

It is tasteless, odorless, inexpensive and lustrous in appearance. Samples, prices and complete information will be sent you promptly upon request.

★ ★ ★ ★

DEFENSE REQUIREMENTS limit the amount of aluminum available for our use; consequently, no new orders for *Orolac* liners can be accepted at present.

CROWN CORK AND SEAL CO. • BALTIMORE, MD.

World's Largest Makers of Closures for Glass Containers

7 Closure Improvements **CROWN** brought you FIRST



Food—technically speaking

The Second Annual Food Conference of the Institute of Food Technologists this past June in Pittsburgh presented information of vital importance to everyone engaged in the packaging industry. Divisional meetings given over to inquiries into and reports on "Packaging and Storage" and "Food and National Defense" bore directly upon problems confronting food packagers today.

Because of the present trend in food manufacture towards more complex and unstable products, C. A. Southwick, Director of Packaging, General Foods Corp., in his address, "Current Trends in Food Packaging," stressed the need for better protective materials, particularly with regard to functional paper packages.

A paper package to fulfill its functions properly must be moisture, vapor, grease, flavor and, in some instances, water-proof. Recently developed materials or treatments applied to paper or fibre board have demonstrated a high functional level, but too often the utilization of the packaging material itself is inefficient and ineffective. Highly satisfactory results in uniformity and fulfillment of functional requirements from transparent sheetings and paper coatings having strongly positive heat-sealing qualities account for their greater development and wider usage.

Modifications in paraffin wax, one of the earliest low-cost moisture-proofing materials, have been attempted to overcome its present incompatibility with aqueous adhesives. Mr. Southwick suggested that improvement in seal strength of heat-sealable coatings for paper and cellulose sheetings would make them available in place of the present solvent adhesives.

Flexible Packages for Free Liquids

Limitations of rigid fibre structure as a container for free liquids are quite well known. Attempts, therefore, have been made to develop flexible packages capable of holding free liquids as well as other foods.

Experiments with a variety of materials reveal so far that none has appeared which can be subjected to the thermal treatment required for proper preservation of foods and vegetables, although the problem of packing foods with a free aqueous phase, not requiring pasteurization or sterilization, is much nearer solution. However, recent patents indicate that flexible containers will eventually be entering the field of vacuum packing.

The introduction of a film lending itself to strong and ready heat-fusion has given considerable impetus to flexible structure development. The essence of the problem, he believed, was to discover a material with certain heat-sealing characteristics and the inherent property of not transmitting oxygen.

The super-market, whose existence was made possible by packaged foods, has grown steadily in popularity.

Consumer free-choice in turn has demanded attractive packages. As a result, food containers have been redesigned, labels simplified and color, transparent wrappings and decorative coatings have replaced drab and uninteresting food coverings.

In line with the movement towards more decorative and highly functional packaging of foods, Mr. Southwick felt that the most desirable trend was that in packaging research.

Personnel and equipment for standard testing should be established, preferably upon a collaborative basis by the food industry and its packaging material suppliers in order to insure the more rapid and sounder advancement in new functional materials and food containers in the field at large.

Preventing Insect Infestation

"Losses due to insect infested foods have been roughly estimated from 250 to 500 million dollars annually," W. C. O'Kane, of the University of New Hampshire, said in his address on "Prevention of Insect Infestation of Foods." Infestation may occur at any time from the original sources of raw materials to the packaged article on the housewife's pantry shelf.

Efficient, adequate control of insect infestation will come only through a program based on systematic examinations and periodic surveys of conditions of insect attack, according to Dr. O'Kane. The major points of such a program he set forth as follows:

1. Speed in the operation of packaging machinery affords less opportunity for insect attack.
2. Absolute cleanliness in plant—avoidance of accumulated materials, installation of machinery well up from floor for easier sanitary maintenance and frequent cleaning of machinery.
3. Spraying with odorless insecticide. A point to be remembered in this connection, however, is that no spray has been found wholly satisfactory.
4. Use of heat and cold. All insects are killed at a temperature of 135° F. maintained for 30 minutes and those most frequently infesting foods are destroyed by a temperature of 0° F. sustained for 2½ hours.
5. Fumigation. The following toxic gases are available as fumigants for food products: hydrogen cyanide, ethylene dichloride-carbon tetrachloride, ethylene oxide and carbon dioxide, carbon disulphide and carbon tetrachloride, chloropicrin, methyl bromide, and ethide now in commercial experimental use only.

Pointing out the packaging requirements peculiar to the Army, Lieut. Col. R. A. Isker, in his second address, "Army Experiments on Food Containers," said that packing must pass two severe tests—that of strength and of storage under adverse conditions. Often food-

"SHOW-CASED"...

for full protection . . . for faster sales . . .



in EASTMAN ACETATE SHEET

attracts
protects
sells

PROTECT MERCHANDISE from dust, dirt, and handling, behind sheets of Clear Transparent *Eastman Acetate Sheet*, and the merchant is glad to put it out—keep it out—where it is most easily seen, most readily sold . . . on top of the counter, down front on the shelf.

Whether you are considering or designing a package, a display, or a display-dispenser, your first thought should be *Eastman Acetate Sheet* . . . it's so modern, so versatile. Do you want the customer to see the product clearly and completely . . . with dust and dirt kept out, soilage from handling prevented? Then it's easy to fashion the Clear Transparent type into containers that are sturdy and rigid . . . that fully protect, yet show every detail to perfection.

Perhaps more limited visibility is desirable? Then you will be interested to know that the Clear Transparent type also combines readily with paper, cardboard, wood, molded- and sheet-plastics. And if you are after an unusual decorative effect, you will find the as yet little-explored possibilities of

the Matte Translucent and Colored Translucent types especially inviting.

For samples of *Eastman Acetate Sheet* of the type, thickness, and dimensions you need to try it, or for the names of converters near you, write to . . . Eastman Kodak Company, Chemical Sales Division, Rochester, N. Y.

Specifications and Fabrication Data

Eastman Acetate Sheet is available in rolls up to 40" in width and any convenient length, and in stock- and cut-to-size sheets. *Clear Transparent* type is furnished in thicknesses up to .020"; *Matte Translucent* type (matte surface one side) in thicknesses .003" to .010"; *Colored Translucent* type (pigment coated one side) in thicknesses .003" and .005"—in a wide range of light-fast pastel shades. All three types of *Eastman Acetate Sheet* can be scored, folded, pleated, fluted, molded, drawn . . . take printing inks without wrinkling . . . can be sewed, crimped, stapled . . . cement with an unyielding bond . . . do not crack or shatter.

BRANCH OFFICES: New York, Eastman Kodak Company, 350 Hudson Street; Chicago, Eastman Kodak Company, 1727 Indiana Avenue. PACIFIC COAST DISTRIBUTOR: Wilson & Geo. Meyer & Co., San Francisco. Federal Reserve Bank Building; Los Angeles, 2401 Hunter Street; Seattle, 1020 So. 4th Avenue. CANADIAN DISTRIBUTOR: Paper Sales Limited—Toronto, 11 King Street West; Montreal, Sun Life Building.

(A) Watch Straps—by Jacques Kreisler Manufacturing Corporation, North Bergen, N. J. Display-Dispenser, with front of Clear Transparent *Eastman Acetate Sheet*—by C. E. Schunack, Inc., Meriden, Conn.

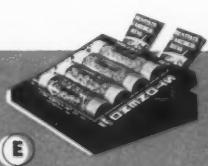
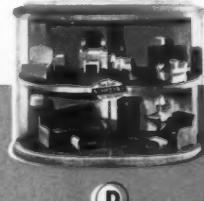
(B) Kodak Combination Lens Attachments—by Eastman Kodak Company, Rochester, N. Y. Display-Dispenser, with front of Clear Transparent *Eastman Acetate Sheet*—by Regent Specialties, Inc., Rochester.

(C) Certiflex Sun Glasses—by American Spectacle Co., Inc., New York, N. Y. Display-Dispenser, with front of Clear Transparent *Eastman Acetate Sheet*—by Clogston-Haskell Co., New Haven, Conn.

(D) Strombeck-Becker True Scale Doll House Furniture—by Strombeck-Becker Mfg. Co., Moline, Ill. Display, with front of Clear Transparent *Eastman Acetate Sheet*—by Strombeck-Becker Mfg. Co.

(E) Stonemo Insoluble Poultry Grit—by Stone Mountain Grit Co., Inc., Lithonia, Ga. Display, with 4 removable cylinders of Clear Transparent *Eastman Acetate Sheet* printed 1 color—by Old Dominion Box Company, Charlotte, N. C.

(F) Evening in Paris Rouge and Lipstick—by Bourjois, Inc., New York, N. Y. Display-Dispenser, with front of Clear Transparent *Eastman Acetate Sheet* printed 1 color—by Arrow Manufacturing Company, Incorporated, Hoboken, N. J.



stuffs delivered to troops on maneuvers must be taken on Army trucks over rough ground. Because unloading and subsequent handling are likely to be fast but rough, packages must be strong enough to withstand such treatment and still afford product protection.

Again, warehouse storage is frequently unavailable since, during maneuvers and combat, supply points are set up in a location most convenient for the troops. A tarpaulin will furnish the only protection, other than the package itself, from sun, rain, dust and insects. Packaged foodstuffs in addition to withstanding the vagaries of the weather in the temperate zone must also hold out against the humidity of the tropics and the cold of the arctic.

The Army has checked many types of packaging in the humidity cabinet, but the only real test is that under actual handling and storage conditions in the field, Lieut. Colonel Isker declared.

He cited a test shipment made to the Philippine Islands via New York and San Francisco. Processed cheese packaged in stabilized hydrochloride was in good condition and of excellent flavor four months after shipment, whereas natural cheddar cheese in breather-type packages was not edible. Flour in cotton bags with moisture-proof lining sustained its good condition and freedom from insects five months after shipment.

Lieut. Colonel Isker was of the opinion that many of the new types of packaging could be adopted by the Army at considerable saving of weight, space and cost.

The importance of continued progress in preservation and retention of foods for our own army as well as the general population can well be viewed in the light of comments made by A. E. Stevens, Chemical Engineer, General Foods Corporation, who attributed Great Britain's defense largely to preservation and retention of foods. The British government had appraised the defense value of zero-temperature storage, rationed it and reserved the greater part for government use. Careful planning and scientific research for national defense have resulted in the majority of recently erected cold storage warehouses being gas-proof and in augmenting the nation's food supply through regular shipments of hundreds of tons of quick-frozen fish from Canada, in addition to the quick-frozen foods being packed in the British Isles.

Planning against Material Shortages

R. S. McBride, a consulting engineer and former assistant chemist of the Bureau of Standards, warned of impending shortages in modern materials and drew attention to the fact that already there were evidences of a serious shortage in tin. He reported that canners had been asked to reduce their use of the metal by 10 per cent. Another shortage was that of aluminum. There is a further likelihood that practically all packaging materials may be very limited, but it was thoroughly unwise to shift from today's shortage to a material that would be curtailed tomorrow.

It is well to remember that our defense effort means government control of all basic metals necessary

for armaments and in the defense industries. The food industry must be prepared not only to make "broad jumps" in switching from one packing material to another, but also to encounter practically the same problems in the other item chosen.

Tin is the most nearly irreplaceable of all packaging raw metals. Because of this fact, Mr. McBride outlined rather comprehensively tin supply prospects for the next few years. About one-half of U. S. tin goes into tin plate, most of which is used in food packaging. The supply for this year's consumption is adequate, but next year's prospect is much less bright. Tin in stock is not up to expectations. Shipments from the Far East will be irregular, due to lack of cargo space.

Theoretically, recovery of tin from used metal is possible, although for all practical purposes no more than 12,000 tons could be so recovered. The highly limiting factor in tin recovery is the inadequate supply of chlorine required in the de-tinning process.

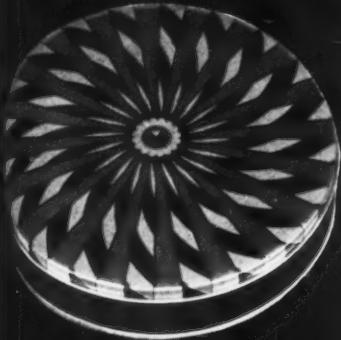
Much speculation has gone forward in regard to tin concentrate from Bolivia, a satisfactory low-cost substitute. Transportation permitting, Bolivian mines could furnish approximately 18,000 tons annually. However, a number of experts express doubt as to this source of supply.

Glassmaking presents similar as well as other different problems, Mr. McBride said. The defense effort has depleted the numbers of skilled workers available to make machines to replace even a third of present canning by bottling. And there is no assurance that raw materials for glass containers will be sufficient. Conservation might be partially effected by using larger containers and, as an extreme measure, containers might even be retained for further use.

How to Test Consumer Preferences

C. L. Arnold, Director, Kroger Food Foundation, gave his findings for the determination of consumer preferences for foods, based upon a wide use of a group of housewives to whom foods for scoring were sent by mail. These tests were interesting in view of the preferences by income groups, which might be applicable to packaging as well. Resultant data from these tests together with conclusions drawn revealed that:

1. For a comparison of two foods, simultaneous submission is preferable to one after another.
2. Lowest income group tends to same preferences as middle income, although former group seldom expresses useful critical opinions. Highest income group takes little or no interest in test. Consequently, testing is concentrated in the middle income group.
3. In gelatine desserts strength is more important than fidelity of flavor. In soups, strength of flavor is less desired than a pleasant overall taste.
4. The value gained from consumer testing is in direct ratio to the effort and study behind the work.
5. Good influence within an organization itself is contributed by consumer preference tests.



Exquisite Sardonyx Pendant from the 15th century now in the Metropolitan Museum of Art of New York City.

COMBINING ARTISTRY AND CRAFTSMANSHIP TO MAKE METAL PACKAGES MORE BEAUTIFUL

TODAY art and design . . . creative genius and merchandising experts . . . combine their talents to design modern packages. Heekin Colorful Lithography on Metal furnishes thousands of businesses with the kind of lithographed cans that sell merchandise . . . some distinctively beautiful to appeal to the women . . . some masculine in their severity to appeal to the men . . .

designed for the product as well as the market. Heekin Superior Lithography on Metal is no more costly than the usual lithographed can. Yet, into every single can . . . in all shapes and sizes . . . goes that extra color brilliance . . . that longer lasting luster . . . that special beauty that makes Heekin Lithographed Cans the choice of men and women whose problem is Sales.

THE HEEKIN CAN CO., CINCINNATI, OHIO



Mum for men



Above, Bristol-Myers Co. first asked men what kind of packages they liked; then put Mum in this thoroughly masculine tube and carton. Most striking features are the metallic copper color and the corrugated effect on the tube. Right, counter merchandiser used to introduce Mum for Men in test areas.

Women are used to cosmetics in jars. Men are not! They are used to buying their toiletries in tubes. For years Bristol-Myers Co. sold their deodorant, Mum, in jars and advertised it to women. Then they learned from dealers that men were good customers for it too. In 1932 they began advertising Mum to men and sales to male consumers increased.

However, Bristol-Myers was not satisfied. Mum as a masculine product ought to be packaged the way men would like it. They sent interviewers into the highways and byways to ask men what kind of packages they liked. The combined answer was definite. A majority liked toiletries in tubes. The men said they were accustomed to tubes for shaving creams, tooth pastes, etc., and they thought tubes were easier and more convenient to handle.

Armed with this information, the company started plans for putting Mum into tubes for men. Their specifications to the designer were for a package that would be definitely masculine—one that a man could

put on the bathroom shelf for his own and let the women continue to use Mum in jars.

The new tube package has recently been introduced in test areas. The color scheme is brown and copper. The metallic effect of copper has been achieved by the use of copper ink. The most unusual feature of the tube is its corrugation, which adds greatly to its appearance and incidentally makes it easy to grip. Brand identification is simple bold lettering with a background of brown. Copy is kept to a minimum. The closure cap is molded of brown bakelite. The tubes are rolled on a mandrel to obtain the corrugation. They are enclosed in a folding carton on which the same brand identification appears in brown and copper with white lettering. The back and side panels are used for promotional copy. Directions for using the product are printed on a folder inserted into each package.

The new package has been introduced in test areas by means of a convenient counter merchandiser which folds into standing position by means of an easel back. The new tube is illustrated on this display together with a group of dummy and real packages. Beside the photographic illustration is a powerful selling message, "Successful men never risk underarm odor—play safe with Mum for men."

Credit: Designed by Donald Deskey. Tubes by Sun Tube Corp. Closure caps by Bakelite Corp. Folding cartons by National Folding Box Co.



Woodbury

"brings out the hidden beauty"



with

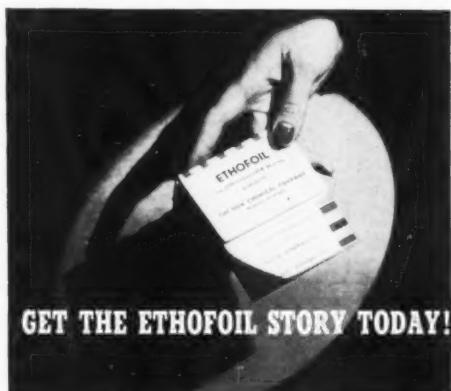
Ethofoil
DOW ETHYLCELLULOSE SHEETING

DOW'S TRANSPARENT SHEETING DOUBLES POINT-OF-SALE APPEAL!



Working with you for America

*Trade Mark Reg. U. S. Pat. Off.



SALES REPORTS from leading cosmetic counters praise ETHOFOIL* for its important role in doubling the point-of-sale appeal of Woodbury matched make-up boxes.

Fabricated for the Andrew Jergens Co. of Cincinnati by the F. N. Burt Co. of Buffalo, the attractive transparent tray, illustrated above, demonstrates an important use of ETHOFOIL. Here, it visibly presents three separate cosmetics in a single, easily-handled, compact unit that "brings out the hidden beauty" and makes Woodbury's package outstanding.

Specific features make ETHOFOIL ideal for many kinds of product packages and displays. Clear, tough, transparent, it does not become brittle with age or discolored from light. ETHOFOIL does not crack, regardless of climatic conditions.

You'll find ETHOFOIL gives new *life* and *light* to your product. You'll find, too, that package makers report it is easy and economical to fabricate. Investigate ETHOFOIL today. Get the Swatch Book (pictured here) and the whole ETHOFOIL story by writing to the Plastics Sales Division, Dept. J., of

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
New York, St. Louis, Chicago, San Francisco, Los Angeles, Seattle, Houston

U. S. patent digest

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 10 cents each.

GLUE APPLYING TOOL. L. Sejarto, New York, N. Y. U. S. 2,244,856, June 10. A tool for applying glue which is made up of a rigid shell and a removable nozzle. The body member includes the chamber which is closed at its larger end with an elastic diaphragm secured to the rigid body. This diaphragm contains an elongation at both ends, the inner end of which fits concentrically with the contour of the receptacle holding the adhesive. On depressing the outer extension of the diaphragm, the adhesive is ejected through the orifice in the nozzle.

COSMETIC DEVICE. T. W. Deakers & L. A. Schmucker, Los Angeles, Calif. U. S. 2,245,906, June 17. A rigid mechanical device consisting of two shells and a plunger which, on further telescoping these receptacles, the plunger discharges a portion of the semi-fluid contents of the lower end enabling its contents to be applied in a thin film.

DENTAL CLEANING COMPACT. W. O. Smith & E. E. Smith, Pittsburgh, Penna. U. S. 2,247,003, June 24. A dental cleaning compact consisting of a tubular holder including a channel shape section which is hinged at one end of the holder to permit movement of the cover section. The brush is pivoted to the holder, which permits in and out movement. Means are arranged for discharging a limited amount of dentifrice onto the bristles of the brush prior to its removal from its holder.

BOX AND SIMILAR RECEPTACLES. R. A. May (to Duncan & Miller Glass Co., Washington, Penna.). U. S. 2,245,798, June 17. A one-piece receptacle made of glass or similar material, and a cover for same made from the same type of material, the two pieces of which are made to fit together by means of a chamfered or bevelled edge of contact. The cover fits in the funnel-shaped edges, thus fully sealing the contents when the lid contacts the base container completely around the chamfered edge.

CONTAINER. H. H. Carruth (to New Haven Folding Box Co., New Haven, Conn.). U. S. 2,244,940, June 10. A paperboard container designed to be shipped in a collapsed knocked-down

condition and assembled by the user. The sidewalls are cylindrical in form, but scored to effect a slight angle at the bend. The base is attached to the sidewalls by means of a rubber adhesive which is applied by the manufacturer in the form of a circumferential strip. This same type of adhesive is applied to the lower face of that portion of the sidewalls which are folded under and ultimately become bonded over the areas where the adhesive has been applied.

PACKAGE FOR FOOD PRODUCTS. A. L. Sherwood (to The Sutherland Paper Co., Kalamazoo, Mich.). U. S. 2,246,818, June 24. A fibre carton suitable for greasy food products made from a fibreboard stock, the inner and outer layers of which are made from a mixture of bleached and unbleached sulphite pulp, carrying from 2½% to 10% of titanium dioxide, the entire container board being waxed.

POWDER COMPACT. P. Vroble, Steubenville, Ohio. U. S. 2,247,179, June 24. A container used as a receptacle to include face powder on an intermediate porous partition and in the lower compartment there is placed a powder puff. The top or cover is so designed that on exerting a pressure on the dome of the cover, the compression resulting in the upper compartment discharges a small amount of the powder through the porous diaphragm onto the puff which is used to convey this powder to the body.

FUMIGANT CONTAINER. G. E. Lynn & F. W. Fletcher (to Dow Chemical Co., Midland, Mich.). U. S. 2,244,302, June 3. A device for dispensing liquid fumigants which consists of a metallic cylindrical shell carrying a discharge tube extending axially within the container. The contents are sealed by means of a fusible closure composed of a low melting metallic alloy over the outer opening of this tube, and a thermogenic element adjacent to the closure.

CONTAINER. J. M. Hothersall (to American Can Co., New York, N. Y.). U. S. 2,246,518, June 24. A cylindrical type of container made up of a tubular fibre body, the cover and base of which may be made from sheet metal, and

crimped to form a liquid-tight joint. The sidewalls are curved inward at both the top and the bottom so that the chime resulting from the joint of the sidewalls with the cover and the base does not project beyond the cylindrical sidewalls. The cover is of dome shape to effect quick drainage of liquid spilled on the top.

FOLDER. H. H. Mitchell (to The Kennedy-Ten Bosch Co., San Francisco, Calif.). U. S. 2,243,974, June 3. A folder consisting of paper sheeting which is bent along a line of fold to bring the outer edges parallel to the line of fold. A second sheet overlapping part of the first sheet with an edge between and in registry with the free edges to which an adhesive film has been applied to bond these edges together.

MULTIPLE PRICE MARKING TAG. F. Kohnle (to Monarch Marking System Co., Dayton, Ohio.). U. S. 2,246,365, June 17. A ticket strip made of sheet material consisting of a plurality of tickets of varying dimensions arranged longitudinally and separated from each other by a series of notches on the upper and lower edges of the strip, the inner termination point of each notch being in alignment longitudinally with the inner termination point of every other notch on the same edge of the strip.

CONTAINER SEALER. J. L. Ferguson (to J. L. Ferguson Co., Joliet, Ill.). U. S. 2,244,873, June 10. An automatic universal sealer equipped with means for conveying consecutive containers of different sizes with the flaps on one end, which may be out of alignment. The movable means are automatically positioned so that each container receives an application of adhesive to their flaps irrespective of their alignment.

BELL TOP FOR FILLING VALVES. C. S. Mullenix (to Liquid Carbonic Corp., Chicago, Ill.). U. S. 2,244,891, June 10. A filling valve for container filling machines consisting of the combination of a filling tube adapted to be projected into the container to be filled, and having an enlarged ferrule on its lower end. A bell top is adapted to engage and seal the container to be filled. There is an opening in the top to permit the passage of the ferrule which is of greater diameter than said opening for normally preventing said bell top from dropping off the end of the tube, when the container is removed.

BAG MOUTH TRIMMING AND CREEPING DEVICE. H. G. Allen (to Consolidated Packaging Machinery Corp., Buffalo, N. Y.). U. S. 2,245,063, June 10. A machine manually operated for

(Continued on page 110)

Southern hospitality *plus!*



Out of the heart of the Old Dominion . . . from Richmond, Va. . . . come the products of the Southern Biscuit Company, Inc.

Recipes from the old South . . . plus overseas ideas such as inspired F.F.V. Shortbread . . . might have limited the activities of the Southern Biscuit Company to its immediate territory.

But thanks to Crown Can, the F.F.V. line reaches stores in the North and West as fresh, as crisp, as appetizing as when it leaves Richmond.

CROWN CAN COMPANY, PHILADELPHIA, PA.
Division of Crown Cork and Seal Company
Baltimore • St. Louis • Houston • Madison
Orlando • Fort Wayne • Nebraska City

CROWN CAN

INDEPENDENT AND HELPFUL



PRESERVING "PRODUCT QUALITY" IS A *Must*

Ridgelo
CLAY COATED

for
folding box
beauty

Ridgelo
CLAY COATED

for sales
boosting
cartons

Ridgelo
CLAY COATED

for soil
resistant
cartons

There are these good reasons for keeping up your standards of product excellence and package quality. Less spoilage is found in high quality material—greater uniformity. Production is almost sure to be faster—fewer delays. There'll be savings by using less accessory materials—such as ink for cartons. Most important, higher unit sales mean better profits.

Today, why not a quality standard for folding cartons? There is a standard and it starts with Ridgelo clay coated. This boxboard provides a carton finish smooth as silk. It can be glossy as a polished plane . . . rich in litefast color . . . or a pure, clean white, difficult to soil . . . easy to print. It looks like a great deal of value for the money and it is! That's why Ridgelo clay coated cartons pay in production, in created sales, in higher profits.

May we send you our new sample booklet?



Ridgelo
CLAY COATED



BOXBOARDS • CARDBOARDS

MADE AT RIDGEFIELD, N. J., BY LOWE PAPER COMPANY

Representatives: E. C. Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Son, Inc., Philadelphia

Modern Display



Dealers find that No. 1398 Cabinet display boosts sales. It sells goods, needs little counter space and is pilfer-proof. In addition, it permits display of actual products with full visibility of the merchandise. Designated No. 1398 Cabinet, the unit represents a deal to the retailer at \$13.98. Such designation is easy to remember.

Cabinet No. 1398

Nothing left to chance, nothing done by halves, ample time for testing and developing an idea—these three elements help to explain why Gillette's display program is so successful.

Their No. 1398 Cabinet display is a case in point. As a result of careful planning this display-dispensing unit has everything. The story has been willingly told to Modern Packaging by George A. Graham, Vice President of the Gillette Co., whose attitude towards competition might be paraphrased thus: "Let them copy us—imitation is the sincerest flattery. By the time someone gets launched on something copied from us, we'll have moved on to another good idea."

By this time many thousands of shavers, big and little, have seen this dispenser and many hundreds of dealers have witnessed its pulling power. It sells goods; it needs little counter space; it is pilfer-proof. In

addition, it permits display of actual products with full visibility of the merchandise.

The unit is designated as No. 1398 Cabinet because it represents a deal to the retailer at \$13.98. Such a designation makes it very easy to remember and also very convenient for the Gillette accounting and recording departments. This particular deal was introduced during May and, like all this company's promotions, was spotlighted for its allotted period. The experience of years has taught this company that a lot more effort will be put behind promotional projects by their own men, by wholesalers' salesmen and by retailers, if projects are confined to a limited number of deals and restricted in time.

But before any such deal or promotional project is launched, there is a long period devoted to preliminary thinking and study. Gillette claims no monopoly in

RAZORS GILLETTE BLADES



the application of the tested principle, "Merchandise well displayed is half sold," and freely admits that their point-of-sale material deserves retailer acceptance for their dealer helps. Consequently, they devote careful preparatory planning to their point-of-sale materials from the standpoints of utility, style and attractiveness.

First thinking on this current piece was just prior to Christmas last year. At least ten different models were constructed before one was finally accepted. Then a testing period, devoted to structural considerations, consumed some three months. Since cost of the display unit must bear a certain definite relationship to the value of the deal with which it is featured, they make a practice of tailoring their displays to a price limit.

After deciding on general structure, a careful study was made of the color scheme with a view to selecting one which would harmonize with the fixtures in most stores. They had to take into consideration exclusive types of outlets on the one hand as compared with the stores of average neighborhood retailers on the other. In the end, natural wood finish with metal parts in gray was decided on as smart, modern and adapted to the majority of outlets.

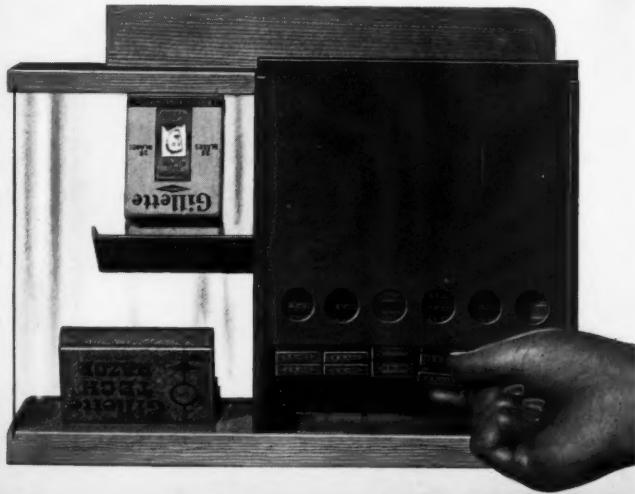
Guarding against pilferage is almost invariably a problem, particularly with small articles easily lifted and of relatively high price. This problem was solved by means of a sliding door in the back readily manipulated by the clerk, but otherwise not easily accessible.

The razors, too, packaged in transparent acetate sheeting, may be seen freely, but are protected.

Another point appealing to dealers is the fact that the merchandise is packed right in the cabinet and the whole unit is ready for them to remove from the carton and place on the counter.

Interesting is the merchandising plan which supports the No. 1398 Cabinet offer. This consists of a series of four pieces. One of these is a broadside to retailers describing in detail the display cabinet and featuring a new 25 pack of Gillette Blue Blades which was introduced to the trade with this cabinet deal. This new pack effects an economy to the consumer without curtailing the retailer's profit. This also stresses Gillette's sponsorship of boxing bouts, affording the dealer an opportunity to tie in his effort with Gillette's national radio advertising plan. One of their fixed principles in merchandising is to relate their consumer advertising effort with their dealer promotion. Other pieces in the merchandising plan are catalog insert pages for wholesalers' salesmen, envelope enclosures, supplied in quantity to wholesalers for promotion to their retailers and trade paper advertisements covering their channels.

Credit: Design created and models made by Designing Staff, Gillette Safety Razor Co.



1. Cabinet front provides customer view of razor blades and razor. The razors are wrapped in transparent acetate sheeting.

2. and 3. A sliding door in the back makes access to the stock by the clerk easy, but at the same time affords protection against shoplifting. An effective solution to a common problem.



Imperial Knife Co.'s famous Bull's Eye card.

Millions of knives on cards

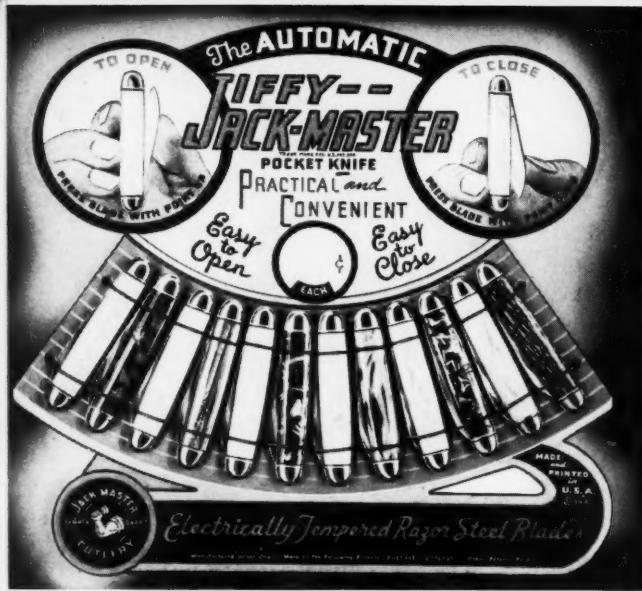
From simple carded displays like you see on these pages the Imperial Knife Co., Inc., Providence, R.I., sells two-thirds of the 18,000,000 pocket knives it produces a year. The annual advertising budget beyond the cost of this point-of-sale material is only a few thousand dollars.

This company began operations in 1917 with 12 employees and a one-room factory. It was among the first in the country to make popular priced pocket knives retailing at from 10 to 50 cents for a mass market. Before that, low-priced knives came from Europe, mostly Germany. After World War No. 1, high tariffs were placed on imports and the door was wide open for the development of low-priced cutlery in this country.

Today the Imperial Knife Co. produces a very heavy percentage of the domestic pocket-knife business. It employs 800 workers in a plant covering an entire city block and about 150,000 sq. ft. of factory space. Business has continued to grow rapidly from the beginning. Sales are made almost entirely through jobbers who sell to chains, drug, department and novelty stores.

Until four years ago, the company made practically no effort to sell its products with point-of-sale display. At that time, along with the increasing interest in self-service merchandising and the importance of displaying goods at the point of sale, the company decided that perhaps it could increase its business by paying more attention to the way its knives were presented to jobbers. Previously, the knives were sold in flat trays with 12 compartments, each one housing a knife. No way was provided for the retailer to display them. The trays were mostly for protection. They could be left open on a counter or in a show case but there was no drama about them.

In 1937, an experiment was made. A colorful counter card was developed for a series of 12 knives. This not only took the place of the old tray but served (1) as a packaging device by which the knives were sold in units of 12 to the jobbers and (2) as a counter display merchandiser for the retailer. Thus, the retailer, when he received such a card, had a counter unit with easel on which the knives were displayed for his customers to see.



All he had to do was to set it up and the knives were ready to sell off the card, accompanied by an appropriately printed sales message to attract impulse sales.

The results obtained from the use of these first cards were so far beyond expectations that the company immediately launched a broad program to card most of its merchandise in this manner. Today nearly two-thirds of the annual production (something like 11,800,000 knives) is carded on such point-of-sale material. The remainder is sold from chain store bins and for prizes, premium deals, etc. It is estimated that since the introduction of the carded displays, the company's annual sales have increased nearly 40 per cent.

The carded displays are quite simple—poster type with striking color and illustrative schemes to tie in with the various kinds of knives the company makes. The knives are secured to the cards with elastic tape. On the back of each card is an easel, so that the card may be folded into a sturdy standing position on the counter. Most are die-cut in attention-getting shapes such as bull's eyes, fan shapes, etc. The cards are not pilfer proof, but they require too much handling to get the knives loose to encourage easy shoplifting. The company has received no complaints on this score.

The company manufactures about 60 different types of pocket knives as well as a kitchen parer sold in variety

stores. On the card known to the company as "the Bull's Eye," an assortment of various kinds is presented. Other cards are styled to the particular types of knives displayed on them. For example, there is one card which features knives as camping equipment. The design here is centered around a woodsy outdoor scene with hand lettering that looks like logs. An illustration of a man in formal morning costume with top hat is used as the tie-in with a deluxe vest pocket knife for the urbane city dweller. A knight in armor is used as the illustration for a small pocket knife popular among men as a chain knife. Sturdy knives sold in rural areas receive quite a different illustrative treatment as do the popular "Barlow" knives every teen-age boy wants. Vest-pocket nail-file knives are put on a card illustrating the convenience of the nail file attachment. A novelty card displaying midget knives made in the form of a tiny bowling pin is winning sales in bowling alleys.

Because of the variation in prices in various localities, such as the Far West, the space is left blank in the price circle for the dealer to determine his own retail price.

A reproduction of the knife company's registered trade mark—a circle with a strong muscular arm holding a hammer—appears prominently on most of the display cards with its trade identification, "the Modern Jack-Master Hammer Brand Pocket Knife."



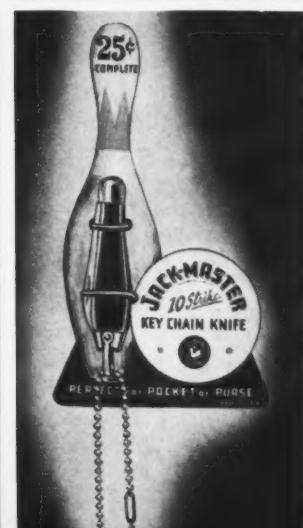


Another display activity which this company started recently provides miniature cards holding one knife each for the bins of syndicate stores. There is one of these for the "Jiffy" knife and another for the bowling-pin knife. These are excellent sales pullers and have been welcomed by syndicate stores for their counter display requirements.

The advantages of this point-of-sale merchandising are best realized when it is learned that since the first venture in this kind of material four years ago, the company now has 30 different types of display cards and during the past year ordered 700,000 of them.

Credits: Display cards by Utility Printing Co. Taping, easels and shipping cartons by Peerless Paper Box Co.

From inexpensive carded displays like these and with practically no other advertising, the Imperial Knife Co. sells nearly 12,000,000 pocket knives annually. Cards are styled to the types of knives secured to them. Pictured below are examples of this company's carded merchandise for syndicate store bins. The single knife on an attractive card is sighted easily and purchased quickly.





Display Gallery

1 To make it easier for the small retailer to carry a complete assortment of their cups, the Dixie-Vortex Co. features them in a blue and yellow merchandising unit. This miniature paper cup department requires no setting up, but arrives from the factory all ready to use.

2 When lighted from behind, every detail of fabric, stitching and contour can be examined by the use of this transparent "bra-form" for mounting of Vanity Fair brassieres. The display is produced by heating and forming a single sheet of acrylic resin over a mold. Light as a feather, delicate in appearance, this fixture is actually sturdy and will not warp, chip or discolor. Acrylic sheet by Röhm & Haas Co., Inc. Designed by S. A. Anthony, Jr.

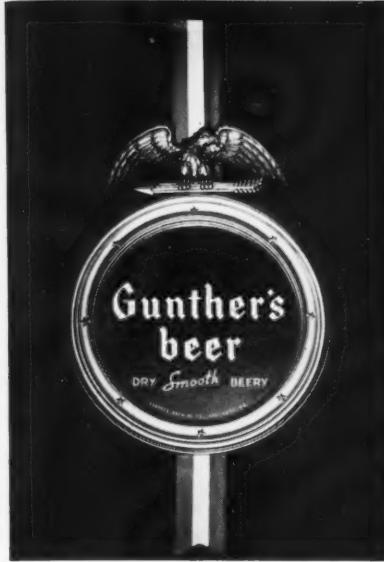
3 Handsome backbar display for Gunther's beer is this reproduction of an authentic Federal mirror. The unit is made with an actual mirror, a wooden frame finished in antique gold and a three-dimensional wood eagle. For permanence the

advertising message is processed in the glass. This unit is bound to get good display position. Mirrors have always been great favorites in bars. Customer attention is invariably drawn to them, thus affording ideal spots for pointing up product interest. Designed and manufactured by Kay Displays, Inc.

4 There is excellent appetite appeal in the colorful still life on a display for Gooderham and Worts, Ltd. The two large cut-out letters, G & W, set forward on the shelf at the base, direct prompt attention to the maker's name and slogan. Designed and produced by Ketterlinus Lithographic Mfg. Co.

5 A large spark plug with realistic flashes of electricity printed on heavy-gauge acetate quickly directs consumer attention to The Goodyear Tire & Rubber Co., Inc., display. The unit's frames and shelves are constructed of heavy plated wire, but top and sides are formed of one piece of cream enameled sheet metal. Transparent acetate sheeting affords full view of several dozen different sizes of spark plugs. Sheetng is die-cut to provide

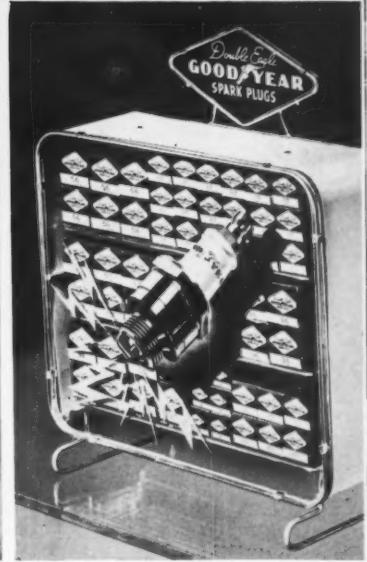




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slots for clamps to pass through and is held firmly in place between the dispenser and supplementary frames. Sales people have easy access to the merchandise stored in the dispenser where customers can see it, but where it is fully protected from pilferage by the transparent sheet. Framework of display-dispenser by Union Steel Products Co. Acetate sheeting by Eastman Kodak Co. Application of sheeting by Food Display Cover Co., Inc.

6 Dummy packages of giant size will probably always be an important part of product display. This is the latest giant winning sales for Schenley's Gin. The size of the huge bottle is demonstrated in this human interest shot of Schenley's mascot testing his strength and his reach with it. The giant dummy package gives long service, because it does not become outmoded as quickly as other display materials.

7 Eagle Picher Sales Co. believes an action picture is the best way to tell the story of its insulating materials. The reproduction of the man and the wood grain effect are in silk screen half tone. The mounting is made on a 75-point board with an actual sample of Eagle insulation wrapped in cellulose to keep it dust proof and stapled into position to show just how the actual merchandise is applied. Produced by Stemar Displays Co.



9

8 A three-dimensional monster gold key bears a streamer with the current advertising theme of the U. S. Rubber Co.—"Your Key to Safety." An actual tire encircles the shaft of the key and a bright red wooden base provides support. Dealers use the displays either in windows or on their showroom floors. Created and produced by Kay Displays, Inc.

9 Plastics plus light present to the public a new machineless permanent wave by Raymond Laboratories, Inc. The stand is intricately molded in translucent shades of urea formaldehyde molding materials. There are six cups, four of which hold different wave lotions, a black one for water is heat resistant and red one for the wave lotion is chemical resistant. Light from a 60-watt bulb focuses on a photograph showing the month's most popular hair style. Molding materials by Bakelite Corp. and Plaskon Co., Inc. Display designed and produced by Raymond Laboratories, Inc.

10 Steady gains in popularity of bubble bath indicated the need for a handy compact dispenser which would occupy a minimum of counter space. Trylon Products Corp. put twelve individually wrapped packages of their bubble bath tablets in a colorful carton for placement on retail counters. The effervescent tablets are wrapped in cellulose with a design in colors. Designed and produced by Milprint, Inc.



10

You can buy it here!



Printed cellulose has now taken on the additional job of reminder advertising at the point of sale.

Window signs of this nature are at least a generation old, but they call for occasional review, especially when some new material or application develops. Their production seems to occur in cycles, perhaps because a temporary saturation point appears to be reached every once in a while.

These store-door posters are obtainable in moderate sized or large quantities at relatively small unit cost. They remain in place for a considerable length of time. They are on exhibit at the point where the goods are on sale and are usually seen by people who are entering the store for the purpose of buying. They often carry a full color representation of the product on the package.

Like all point-of-sale advertising, these transparencies can be spotted by the advertiser according to his own distribution needs. Further, they are capable of a variety of tasks. They may picture the product and its use as does the Ivory soap poster. They may tie in with other forms of advertising as does the Bond Bread poster with its reminder to youngsters of the Lone Ranger program. Or they may carry a purely altruistic phrase like, "Thank you. Come again." Some have "privilege" panels calling attention to the retailer's lines and a center panel for the advertised product.

Credit: Transparencies by Shellmar Products Co.





Pop at the ice box

Known as the Family Ice Box, this display developed by P. Ballantine & Sons, brewers, was designed to sell not only their products but also high-profit food items that are naturally associated with ale and beer in grocery and delicatessen stores.

There were several important factors behind the thinking for this promotion. By displaying and merchandising relatively slow-moving food items alongside the faster-moving lines such as beers and ales, dealers were able to sell such articles as cheese, crackers, pickles, olives, canned meats and the like which are often consumed with ale and beer. The average dealer was also more inclined to cooperate, with the possibility of additional sales from related food items. Thirdly, to get the most beneficial results from the promotion, the display piece was made one of unusual appeal to customers when placed in the most advantageous spots in a store.

The result of all this was the Ballantine Family Ice Box. The ice box comes in three sizes. The largest is the size of an actual small family ice box—4 ft. high by 29 in. wide by 6 in. deep. The third dimension allows for the addition of shelves to display actual merchandise on the upper and lower shelves, with colored cut-outs of

food items on the smaller middle shelf. The box was lithographed in full color and had such an appeal that the average dealer was perfectly willing to assign to it a choice location in his store.

A medium display, 22 in. high by 20 in. wide, showing a man clad in bathrobe and pajamas raiding the ice box in search of a midnight snack, was prepared for counter use. This, too, had an actual shelf for the display of merchandise and formed a pleasing addition to counter tops. In a smaller size of 17 in. high by 14 in. wide, the man's full figure and the entire ice box also have been reproduced. The merchandise in this case, however, is lithographed on the piece.

The company reports that results produced by this promotion have far exceeded expectations. Its appeal to dealers proved an excellent opportunity to get it into good locations in stores; it is still in use after months of display and many dealers have requested to repeat it. Ballantine has had other displays receive enthusiastic dealer reception, but this is the first time they have been asked for return engagements of the same piece.

Credit: Idea originated by Henry Gorski, Advertising Manager, P. Ballantine & Sons. Lithography by Einson-Freeman Co., Inc.

Giving "Oomph" to wooden forks...

Strange as it may seem, wooden forks can be given "Oomph" . . . ingenious, attractive wrapping does *dress 'em up*—gives them real *sales appeal*.

Bentwood brand wooden forks have this "Oomph" we're talking about . . . thanks to a good looking package, designed with an eye on sales, and wrapped on our Model FA. "Bentwoods" are packed in an open boat with an overall wrap of *printed* transparent "Cellophane." Looking in the window, you can see every fork in the four individual stacks of six each. The color and smooth texture of the wood are clearly visible—showing the fine quality of the product.

Printed in blue and gold, a "bull's-eye" spot perfectly registered by an *Electric Eye*, tells you the price—"10¢ FOR TWENTY-FOUR."

You'll agree that Bentwood products have just about every advantage that modern, sales-minded wrapping can offer.

You'll also agree that in a great majority of wrapping successes with "out of the ordinary" products, like wooden forks, writing envelopes, zipper fasteners, etc., it's a Package Machinery Company machine that's doing the job.

If yours is an unusual product and you're planning a new wrap for it, get in touch with us. From our line of 78 models, you'll get the *best* machine for your needs.

Consult our Packaging Clinic

PACKAGE MACHINERY COMPANY • Springfield, Massachusetts

NEW YORK

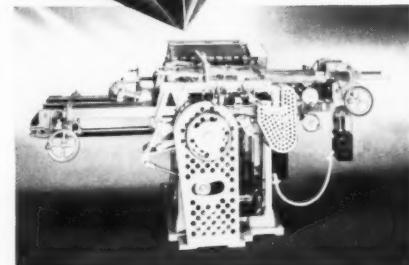
CHICAGO

CLEVELAND

LOS ANGELES

TORONTO

Buenos Aires, Argentina: David H. Orton, Maipu 231
Peterborough, England: Baker Perkins, Ltd.
Melbourne, Australia: Baker Perkins, Pty., Ltd.



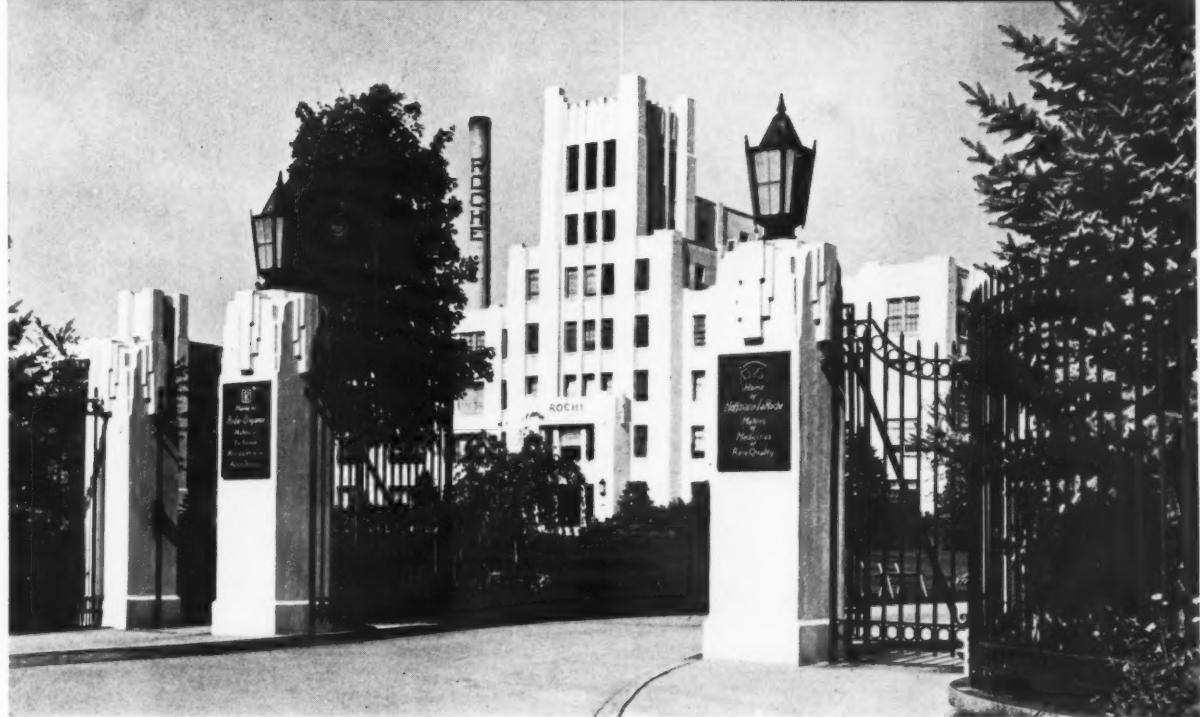
DEFENSE WORK

We, as well as other machine makers, are filling heavy demands for defense work. You will help your Nation, yourself and us by anticipating your own requirements for machines or service as far in advance as possible.

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

PACKAGING TECHNIQUE and PRODUCTION



"Ethical" packaging

by WALTER S. ROSS

As you pass the gate-keeper's cottage, you swing into a curved, flower-lined drive between grassy lawns and well-kept trees. Doesn't sound much like the approach to a factory, does it? And neither does the Hoffmann-La Roche plant *look* like a factory. Set in what is aptly called "Roche Park" in Nutley, N. J., this ethical pharmaceutical manufacturing establishment has the appearance of some well-kept public or private institution. The grounds are both spacious and attractive and the buildings are set well back from the highway.

There are good reasons for all of this window dressing. The white stone building which houses the packaging operations is an advertisement for Hoffmann-La Roche products. It is one of the few forms of advertising which this company permits itself. In its status as an "ethical" pharmaceutical manufacturing concern, Hoffmann-La Roche cannot advertise except (1) in medical and dental association magazines and (2) direct

by mail to doctors and dentists. In fact, the direct-mail sampling of new and old products consumes a good portion of Hoffmann-La Roche packaged merchandise. Twice a year their list of 175,000 doctors and dentists receives sample packages of vitamins. In the interim, sampling operations are constantly carried out in response to returns from promotional mailings made to the same list. The postage bill for all mailing runs around \$15,000 a month. This gives some idea of the scope of these operations.

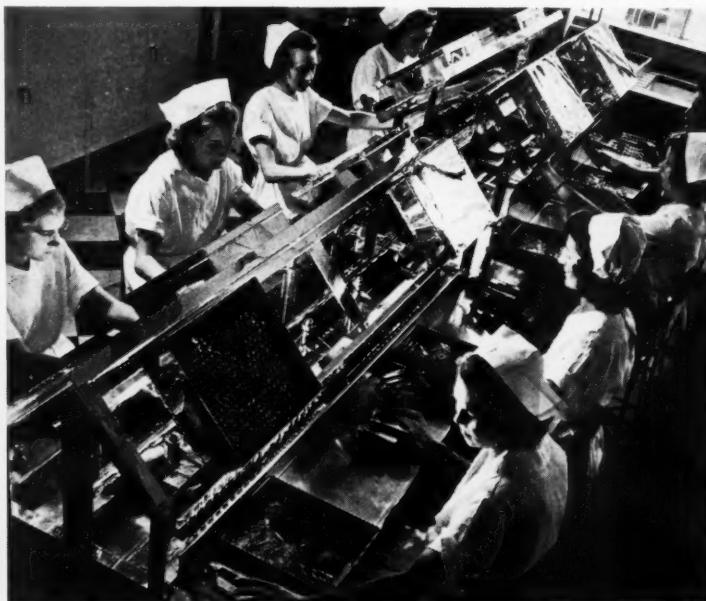
The plant is divided into several buildings. Bisecting the plant operations is a railroad siding capable of handling ten or twelve cars. All of the manufacturing and processing takes place on one side of the tracks. On the other is the building for packaging activities.

One of the most interesting of the packaging operations is the filling of ampoules. These are first sent through sterilizing operations—washed first in hot water, then in distilled water. The water is then re-

moved by air and the ampoules in metal boxes with their covers removed are placed in an electric oven for one hour at a temperature of 160° C. Then the covers are put on the boxes and the ampoules reheated at the same temperature for three more hours. This kills all bacteria. Covered trays of sterile ampoules are taken to the next room where the packages are to be filled. The filling operation is done by hand on a pipetter. Since the ampoules are filled with synthetically manufactured endocrine products which deteriorate rapidly

in contact with air, carbon dioxide is used to drive out whatever air remains in the ampoules after they are filled with liquid. The gas, being heavier than air, remains inside the ampoules and keeps air from re-entering. The ampoules are then heated in a double flame which melts the glass and forms a perfect self-seal. After sealing, the ampoules are put in a sterilizer and then placed in a bath of methylene blue. This last step is a precaution taken in case any ampoules are not completely sealed. If there is the slightest opening, the methylene blue will enter the package and, under inspection, the faulty container can be detected from its mates by its blue color. Perfect packages are perfectly white by contrast.

Surgical cleanliness is the keynote of all these operations. Operators wear clean, white uniforms and caps. The rooms themselves are kept scrupulously clean and air conditioned, which frees the atmosphere from dust. The color scheme is soft and attractive; basic color is gray with a blue trim and white ceilings. Special chairs encourage operators to perfect posture and keep fatigue at a minimum. Work tables are standardized at a height of 31 in. Since the ampoule filling is done on a strictly manual basis, the operations are divided into ten different tables. Each table has one girl filling and two girls sealing ampoules. Extra sealers circulate



1

1. Ampoules are first sterilized—washed in hot water, then in distilled water before being put in an electric oven for an hour at 160° C. 2. Filling operation is done by hand on a pipetter. Since synthetic endocrine products deteriorate rapidly in contact with air, carbon dioxide is used to drive out air that remains after ampoules are filled with liquid. A double flame melts the glass and forms a perfect self-seal. 3. Labeling ampoules.

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from one table to another and fill in wherever needed during rest periods. The total production in an eight-hour day is 75,000 ampoules—7,500 per table.

All packaging is done on one floor. The mailing operations take place in another wing of the building. Here metal-edged boxes are used for sampling. The boxes have ingenious die-cut platforms to hold bottles and other types of packages to be sampled. Here, again, the operations are primarily manual. One girl inserts packages in a sleeve; another puts the sleeve in a box; another labels the box and several girls do the same thing simultaneously.

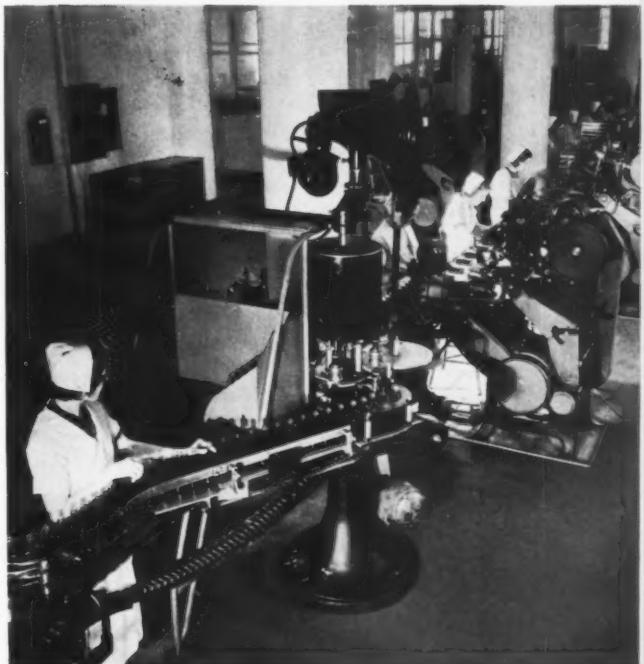
There is little of the automatic or mechanized packaging seen in mass production plants here. The Hoffmann-La Roche problem is primarily one of quality and variety. Small but steady quantities of many different types of products must be constantly packaged. There are 265 girls employed on the packaging floor. The fact that operations are primarily manual enables A. H. DeWitt, Hoffmann-La Roche's production manager, to shift his productive capacity as needed.

There is one automatic line in the plant. It is used for filling bottles with liquids. Fourteen tanks of 550 gallons each on the third floor are piped directly to the filling machine on the packaging floor. This filler is rotary in operation and handles 20,000 bottles per eight-hour day. Automatic capping and labeling are also done on this line.

The filling of bottles and boxes with tablets is a semi-automatic operation. A tablet counter is employed and the containers placed under it by hand. Labeling of ampoules is done semi-automatically. The wrapping of suppositories in foil is (*Continued on page 108*)



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4. Girls insert packages in sleeves. 5. Others put sleeves in metal-edged boxes. 6. Still others operate addressing machines and put labels on the boxes. 7. There is one automatic line in the plant. The rotary filler handles 20,000 bottles per eight-hour day. Automatic capping and labeling handle this.

Let *Light* boost your output

by CHARLES L. AMES

The increased industrial production resulting from the National Defense Program and the general up-swing of business has placed an added burden on packaging departments. Because of the difficulty in obtaining automatic machinery, much of the packaging work now must be done by hand to keep up with production and the worker becomes the limiting factor in boosting the output of the department.

If the packaging process is studied, it will be seen that most operations require strict attention to details. The ease with which an employee can see these details has an important bearing on the quality and quantity

of his work and obviously influences his useful output.

There is only one controllable factor in the seeing process and that is light. The other two elements are the eye and the seeing task. Little can be done for the eye to improve seeing except that its vision can be sharpened with the aid of glasses if such aid is needed. Usually there is little chance to ease the task by enlarging or eliminating the hard-to-see work details that frequently cause eyestrain, headaches and fatigue. However, light can be controlled in almost any manner. The wise executive will exercise this control to provide the best possible seeing conditions for all of his industrial operations and certainly for packaging and other

* Nela Park Engineering Department, General Electric Co.



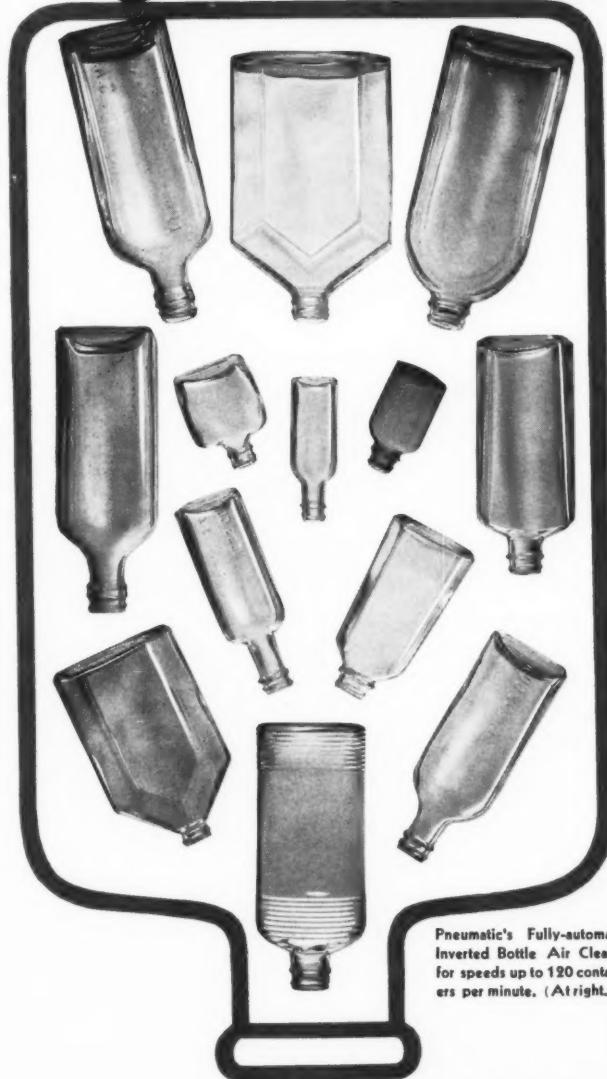
1. This canning department is lighted with 576 fluorescent luminaires, each employing two 40-watt daylight Mazda F lamps. The effective illumination levels on the workers' tables are 20 to 35 footcandles.



2. Supplementary units of the large-area, low-brightness type provide illumination comparable to indirect systems and reveal the details which must be distinguished in production line operations.

AVOID COMPLAINTS

Clean bottles the modern way



Pneumatic's Fully-automatic Inverted Bottle Air Cleaner for speeds up to 120 containers per minute. (At right.)

Pneumatic's Semi-automatic Inverted Air Cleaner handles these thirteen bottle sizes, shown above. Nine sizes handled without any change of parts, —five other sizes with one extra set of nozzle seals,—two minutes required to change from one pair of nozzle seals to the other.

PNEUMATIC SCALE CORPORATION, LTD.

71 Newport Ave., North Quincy, Mass.
(Norfolk Downs Station)

Branch Offices:

NEW YORK CHICAGO SAN FRANCISCO
LOS ANGELES



Semi-automatic Air Cleaner for 20 per minute to 50 per minute cleaning of all bottle sizes.

U P S I D E D O W N ... W I T H D R Y A I R

Protect the consumer and prevent dissatisfaction. New glassware should be cleaned to guard against the likelihood of lint, dust, and particles of glass being mixed with the product. Don't leave it to chance. It's surprising the amount of foreign matter that collects in bottles and jars between the time they are manufactured and the time they are actually used in your plant.

Pneumatic guarantees a thorough cleaning job. Containers are first inverted then subjected to an internal blast of air at 60 lbs. pressure. Gravity also aids in the removal of lint, dust, particles of glass and other foreign matter.

Advantages Over Water Rinsing

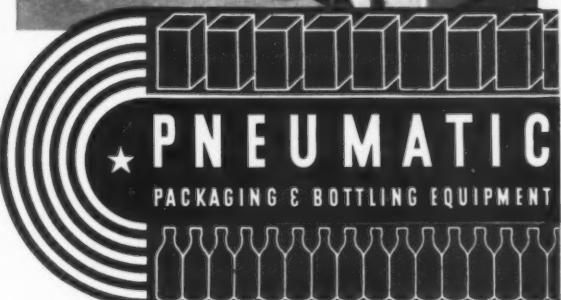
No water introduced to dilute the product.

No costly water charges.

No introduction of oil particles, mineral salts, or other foreign matter sometimes present in rinsing water.

No trouble on labeling machine due to water on outside of containers.

No possibility of bottles not being properly cleaned because of a drop in water pressure.





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processes where discrimination of details is so important.

Many researches have been conducted to show the relationship between lighting and visual acuity, that is, the ability to see small details. One result of these investigations was the conclusion that light is a magnifier of small detail. For example, in a test conducted with 20 adult subjects, their ability to see small details under one footcandle of illumination improved 23 per cent by adding proper eye-glasses, while a 33 per cent improvement was effected by performing the same task under 100 footcandles. Adding both glasses and light increased the acuity 56 per cent.

What do these figures mean to industrial managers? They mean that good lighting improves the ability of the worker to do any task that involves the rapid discrimination of details. Most tasks involved in high-seeing industrial processes fall into this category.

Many other advantages of good lighting have been proved by countless laboratory tests and by numerous field investigations. Among these benefits are improved product quality which results because more accurate

3. These employees have the benefit of 50 footcandles of illumination from single-lamp RF fluorescent luminaires mounted directly over the work benches. 4. Fluorescent lamps are available in a wide range of lengths and wattages. 5. A 2-lamp RF fluorescent luminaire. 6. Standard RLM fluorescent luminaire for two 40-watt Mazda F lamps. 7. Lighting units too far apart result in poor and non-uniform illumination. 8. For best seeing conditions illumination should be made uniform by proper spacing of all the outlets.

seeing gives greater uniformity, increased production, decreased cost because of reduced spoilage and less rejects, fewer accidents, improved employee morale, more efficient use of floor space and lower maintenance costs. Relighting could be postponed a few years ago when there was no need for more rapid production and quality could be maintained by taking enough time to make sure that the operations were properly performed. Today, however, most industries need the advantages that modern illumination can bring and relighting should not be further postponed.

Since the cost of good lighting is lower than ever before because of increased lamp efficiencies, reduced electric rates and decreased lamp prices, footcandle levels appropriate for packaging operations can be economically attained. Actually, today's lighting dollar purchases ten times as much light as it did a quarter of a century ago. If an executive will spend as much for lighting his plant as he did some 25 years ago, he will have an excellently lighted factory.

Present industrial lighting installations show a





5 and 6

marked trend towards the higher illumination levels. When new plants are built, the installation of good modern lighting as a sound investment is no longer questioned. It is taken for granted that 50 footcandles of general illumination for normal production work is a necessity and stops waste motion. Older installations are being relighted to this illumination level or more.

The time is not long past when the typical industrial operator would have "gasped" at the sound of a 50 foot-candle recommendation. A few still think that such a footcandle level represents "blinding" light, such as a look at the sun. However, 50 footcandles are but one-tenth or 10 per cent of the footcandle levels commonly found in the shade of a tree outdoors. Fifty footcandles is only a meager approach to that ideal seeing condition.

Among the most popular of the newer industrial luminaires are those employing Mazda F (fluorescent) lamps. Although introduced only three years ago, fluorescent lamps have gained widespread and favorable attention and have created interest in all lighting.

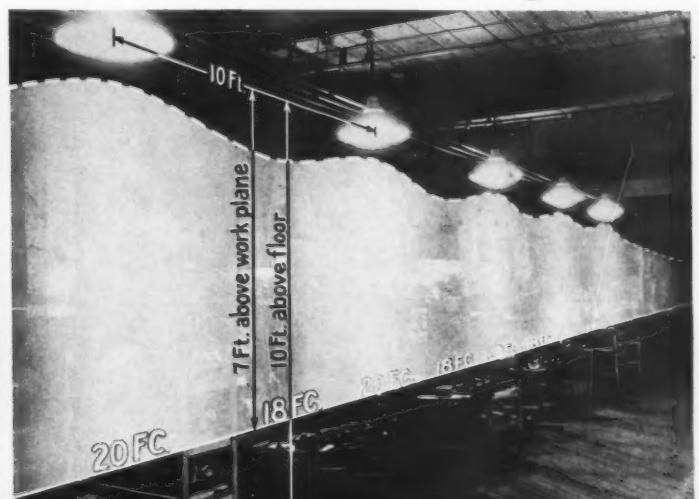
There are several reasons why this source has gained such rapid acceptance. For example, (1) the efficiency of the Mazda F lamp makes possible higher footcandle levels with existing wiring provided power factor corrected auxiliary equipment is used, (2) the fluorescent line includes a daylight lamp which produces light of this color quality at efficiencies never before possible (artificial daylight has always been desired by industry) and (3) the fluorescent lamp produces cool light. On an equal light basis the radiant heat from a fluorescent lamp is only about one-fifth that of a filament lamp. Several hundred footcandles can be used with comfort.

Fluorescent lamps are tubular sources which emit light from their entire surface by internal fluorescence. The tubes have an electrode at either end (connected to 2-pin bases and, thus, require special fluorescent-lamp sockets) with no apparent connection between them. When given the proper voltage supply, current flows through mercury vapor contained within the tube. This mercury-vapor arc

(Continued on page 106)



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POINTERS ON PAINT

An interview with JAMES A. MEACHAM*

There's more to fresh paint than meets the eye. The up-to-date packaging plant executive knows that paint, properly selected, is a first line of defense against dirt, dust, mold, bacteria, moisture, rust and other foreign substances. He knows also that paint makes better seeing conditions, happier workmen and greater production efficiency.

White paint has come to the rescue of the worker handicapped by poor lighting. White paint on larger areas not only provides a desirable clean appearance, but also gives the maximum amount of light reflection and a more even distribution of light over the entire floor area, especially away from windows. Artificial lighting units, when aided by the added reflection from white walls and ceilings painted with a technically correct white paint, give more abundant illumination, assuring maximum efficiency and better light without increasing lighting costs.

The quantity of light in a room depends to a great extent on the light reflection value of the paint on walls and ceilings. If a substantial part of the light striking a painted surface is reflected as is the case with special light-reflecting white paint, the general illumination of the room is increased. If the light is absorbed, loss of light is inevitable.

Where light is improperly distributed, deep shadows contrast strongly with bright areas. Each time the

workers look up from a brightly lighted area into dark surroundings, their eyes must adjust themselves to the difference in lighting intensity. This constant adjustment causes eyestrain and fatigue. The use of white paint, which eliminates the darker areas, greatly improves the uniformity of general illumination and overcomes this common cause of eyestrain.

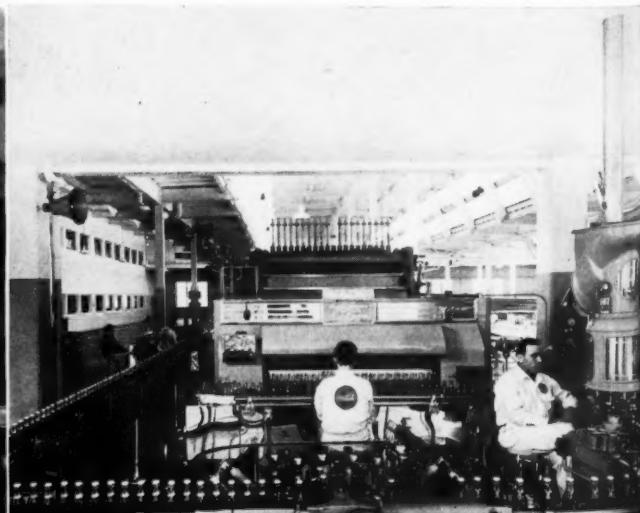
When light is reflected equally in all directions from a point having good diffusing properties, the eye is not conscious of glare; the brightness of such a surface appears equal from any angle of view. Shadows are luminous and soft.

A diffusely reflecting flat or eggshell paint reflects as much or more light than a gloss paint. For painting walls and ceilings, therefore, the selection of gloss involves a compromise between maximum reflection and freedom from glare, on the one hand, and the greater durability and ease of cleaning of the higher gloss finishes, on the other.

In light-reflecting value and ability to diffuse light, a flat white newly applied is considered superior. An eggshell white finish approaches very closely the reflecting and diffusing power of flat, with the advantage of easier cleaning and greater durability. Gloss and semi-gloss finishes are the most durable of all, the most highly resistant to moisture and the most easily cleaned. Walls painted with gloss white give the effect of gleaming beauty and spotless sanitation. With

* Industrial painting engineer, Sherwin-Williams Co.

Left, Hershey milk chocolate is made and packaged in a spotless plant at Hershey, Pa., where correct paint helps to reflect all possible light. Right, judicious use of paint contributes to maximum diffusion of electric light and daylight in the new Coca-Cola bottling plant, Atlanta, Ga.



Nestlé knows how

What you can easily ascertain: THERE IS A STOKES & SMITH MACHINE TO FILL ANY POWDERED or GRANULAR PRODUCT—AT SPEEDS TO SUIT YOUR NEEDS. NESTLÉ SHOWS HOW cans of delicious "Nescafé" are filled at the rate of one a second by one S & S Filler. And, this same machine is suitable for practically any powdered or granular product, packed in quantities from a fraction of an ounce to one pound!



Ask about it



write—

STOKES & SMITH CO. FRANKFORD, PHILA., U.S.A.

higher lighting standards, the better light-reflecting and diffusing properties of eggshell and flat finishes have made them the most popular types where moisture conditions and other hazards are not a factor.

Varying conditions demand varying amounts of light and the selection of white paint or use of other colors depends upon conditions. Much has been learned about the use of colors for industrial purposes. For example, it has been found that various tints applied to dados, machines and other equipment not only increase the opportunity for attractive appearance, but also, if chosen with respect to psychological values, improve employee spirit and productive efficiency.

Contrasting colors applied to operating levers make possible faster handling and greater safety. Red applied to danger zones improves safety. Cool colors, such as blue or green on lower portions or trim of excessively warm rooms, or warm colors, such as red, orange or buff, on refrigerator dados or for cool rooms, will promote a feeling of comfort where employees are obliged to work under extremes of temperature. Pipe-line enamel colors used as markings on white or light-tinted pipe-lines will facilitate identification without detracting from the white appearance in the plant.

Value of Color Contrasts

Those industries which have dared to depart from the usual black or gray in painting machinery and equipment have discovered distinct advantages. One manufacturer was faced with repeated complaints of eyestrain from experienced employees. Investigation revealed that they were sewing with black thread on black shoes and trying to see these against the black background of the machine. It was decided to paint a few of the machines a contrasting color. Better work resulted and complaints of eyestrain ceased. So pleased were the workmen that others asked to paint their own machines. Soon every department wanted its machines repainted and the workers were willing to do this themselves in slack times. Different color schemes were tried in different departments. Some

workers even bought smocks to match. Great pride was taken in the machinery upkeep and spoiled work and accidents decreased, while production hit the upgrade. Also, a very important result was the congenial spirit built out of the simple application of paint.

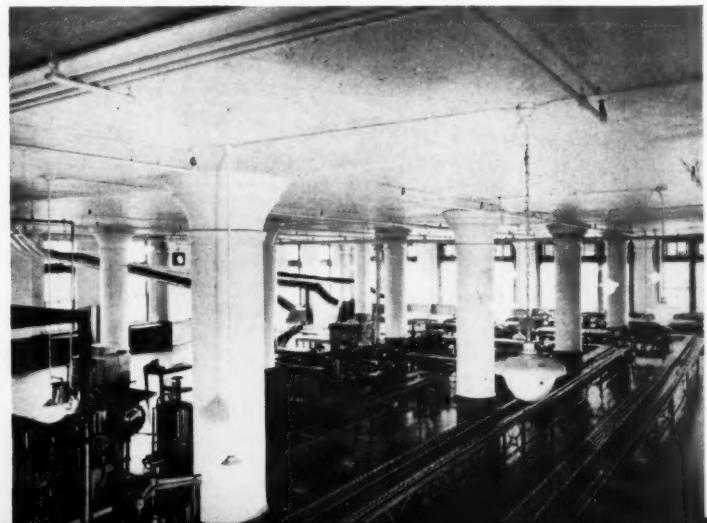
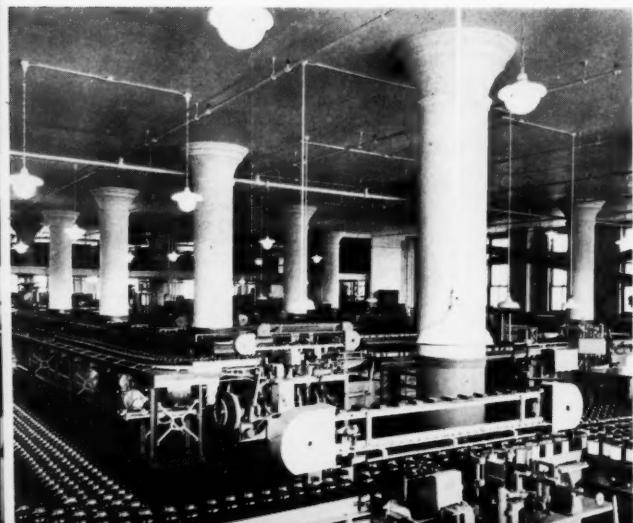
It is important to remember, for purposes of general illumination, that the proportion of light reflected, the light most useful in seeing, varies greatly with different colors and different shades of the same color. The lighter the shade of the color used, the more light is reflected. The accompanying table specifies the light reflection values of several colors. White heads the list by a considerable margin:

REFLECTION VALUES OF PAINT COLORS

Color	Per Cent
White	89
Ivory	82
Canary Yellow	77
Cream	77
Caen Stone	76
Orchid	67
Cream Gray	66
Ivory Tan	66
Sky Blue	65
Buff	63
Pale Green	59
Shell Pink	55
Bright Sage	52
Silver Gray	46
Olive Tan	43
Forest Green	22
Cocoanut Brown	16
Black	2

Because of fume, gas and moisture conditions, as well as high humidity and temperature extremes, painting in packaging plants is a specialized problem, particularly in the food and beverage industries. Good grades of oil paints, either gloss or semi-gloss, or special enamels are generally recommended. Such finishes are dirt,

Two views of capping and labeling department of the Lambert Pharmacal Co. plant in St. Louis, Mo., painted with flat white to obtain maximum diffusion of light reflection. Company officials reported tremendous improvement in lighting following application of this clean-looking, light-reflecting paint.



dust, moisture resistant and stand frequent washing without destruction of the paint film. It is important to have all cracks and crevices filled and it is advantageous to round all corners before the final painting operation. This will lessen the need for repeated fumigation and sterilization. Porous concrete walls will not only collect dirt, dust and other particles, but will absorb moisture, which results in the formation of mold and the propagation of microscopic organisms. Obscure corners and cracks are frequently havens for insect pests despite sanitary measures. A little filler and paint will overcome this condition.

Special Paints Available

The exact paint to be applied should be governed by existing conditions. The presence of strong fumes or gas will require paints specified as fume-resistant. Conditions of extreme temperatures require paints employing vehicles and pigments that do not break down and discolor when exposed to heat, as well as vehicles that possess unusual flexibility. The formulation of these paints varies with different manufacturers, but important to executives and maintenance men is the knowledge that special paints exist that are designed to give lasting service at a substantial saving.

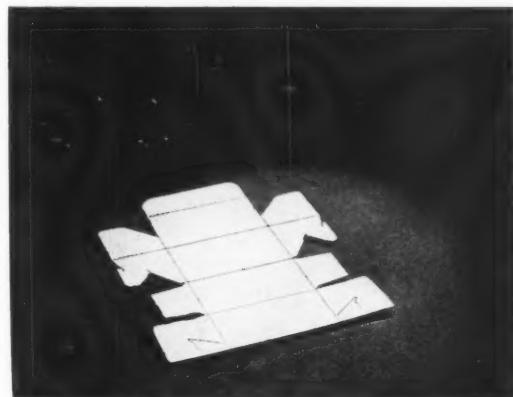
Concrete paints for interior or exterior use are oil-type paints differing from standard outside paint in that they are given a vehicle which prevents over-absorption by porous concrete and cover evenly on the rough texture. New concrete surfaces are best treated by washing down with a solution of $1\frac{1}{2}$ to 2 lbs. of zinc sulphate crystals to a gallon of water. This will minimize the dangers from free alkali. The initial coat on unpainted concrete should be a primer and sealer applied when the wall is thoroughly dry.

Paint should never be applied over loose paint, or on greasy or damp walls. Cracks and cervices should be filled with a special paint filler. Regular and fume-resisting paints are obtainable in gloss, semi-gloss or spray gun. It is advisable to avoid the use of high lead-content paints where there is danger of contaminating foods or beverages with lead.

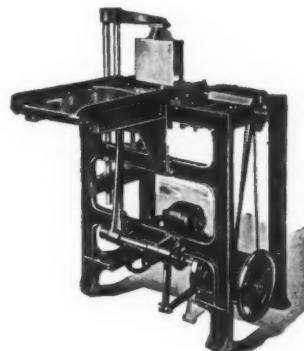
Concrete floors require the application of floor enamels which have excellent sealing and wearing qualities. Unpainted concrete floors absorb considerable moisture, take up odors, hold dust, form breeding places for germs and insects and are difficult to wash thoroughly clean. Though often neglected they are tremendously important in the control of these conditions which make a pure, wholesome and uniformly fine product possible. Neglect of concrete floors also results in their gradual deterioration and disintegration due to moisture conditions, the presence of various oils and chemicals. Good grade floor enamels have a high gloss and possess remarkable wearing qualities. If lighter colors are used there will also be less absorption of light by floor areas and the general appearance of the plant will be distinctly improved.

Refrigerator finishes are obtainable in flat eggshell or gloss types and in white (Continued on page 108)

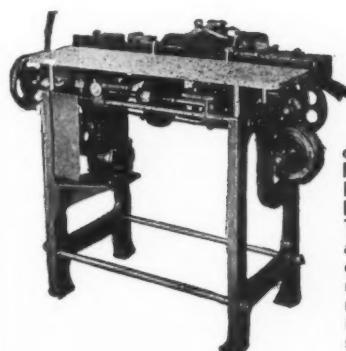
You owe it to your plant ... to investigate these Carton Packaging Machines



Type of die cut cartons handled on these machines



To set up cartons economically at speeds of 30-40 per minute, this PETERS JUNIOR CARTON FORMING AND LINING MACHINE is used. After the cartons are set up, they drop onto the conveyor belt where they are carried to be filled. One operator required. Can be made adjustable to handle several carton sizes.



To close cartons at speeds of 30-40 per minute, this PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE is used. The cartons, after being filled, are conveyed to this machine where they are automatically closed, requiring no operator. Can also be made adjustable to handle several sizes.

Send us a sample of each size carton you are interested in handling and we will promptly recommend equipment to meet specific requirements.

PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVENUE, CHICAGO, ILL.

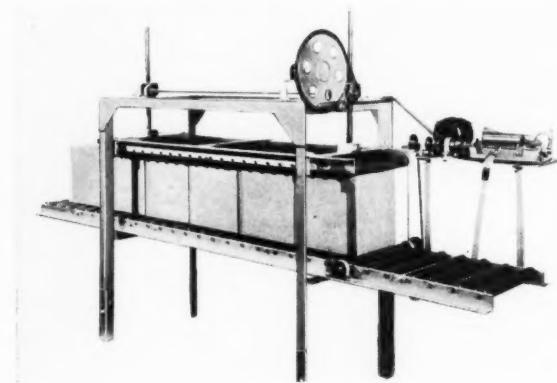
Equipment and Materials

NEW DEVELOPMENTS IN PACKAGING MACHINERY • METHODS and SUPPLIES



SEMI-AUTOMATIC CARTON SEALER

Felton & Son, Inc., has produced a new semi-automatic carton sealer with an average output of four 20 by 20 in. cartons per minute and considerably increased production on smaller cartons. The machine can be operated by one person and adjusted in one minute to accommodate any size case within the limits of the machine. The sealer will handle any size case from 2 in. to 20 in. in height and from 6 in. to 20 in. in width or length. Framework is durably built of angle iron, reinforced and electrically



welded. Compression unit conveyor rollers are all steel, dry bearing, 24 in. long by 2 in. in diameter, spaced 4 in. between centers. The motor is fully enclosed, single phase, ball bearing, $\frac{1}{4}$ hp., 110-volt, 60-cycle, with extension cord and built-in switch in base. Where current differs from above, a special motor can be obtained. Motor is equipped with an enclosed worm-gear attachment which operates the gluing unit and by means of a V-belt attachment also operates the single, rubber-covered friction roller in lower tier of rollers. Lock casters for moving sealer and narrow hand rollers for small cartons are available. This standard sealer is 10 ft. in length, 6 ft. in height and 32 in. in width. Weight is 550 lb., packed for shipment.

NET TIGHTENS

The new Priorities Critical List issued by the OPM July 14 contains over 300 items, 17 of which have not appeared on previous lists, such as, for example, borax, boric acid, various metals and forms of metals not previously included, cork, plastic ingredients, raw rubber, etc.

Interesting to canners is the fact that OPM has issued an order applying the A-2 preference rating to the deliveries of materials needed by plants constructing or repairing canning machinery and equipment, on the ground that the present machinery and equipment are insufficient for handling the 1941 crop of fruits and vegetables.

The shortage of cork promises problems in connection with closures for packaging purposes, as well as for insulation and floor coverings. Cooking utensil manufacturers reported that more than 3,000 persons were of necessity laid off due to aluminum shortages. Collapsible tube manufacturers, as noted in the July issue of *Modern Packaging*, are planning on the substitution of tin-coated lead tubes for shaving creams, paints and adhesives, this substitution to be completed by September 1.

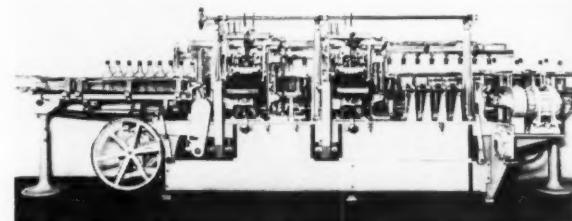
The National Academy of Sciences, in a report made public July 10, advised the OPM that silver would be substituted extensively for tin in solder. The raw material cost, it was declared, would be the same. Their report was accompanied by specific suggestions looking towards the conversion of tin, such as the use of glass containers wherever possible.

Business counselors, in anticipation of non-defense industries, finding themselves without production for their plants, are advising their clients to convert their activities to include defense production. This conversion has been practiced on a large scale by the automobile concerns which are now making aircraft, tanks, etc. Smaller manufacturers are urged to study the situation very carefully in order to determine what defense products they can make.

STRAIGHTAWAY LABELER

The Straightaway Labeler has been designed by the Economic Machinery Co. for quantity labeling of flat, square, round, oval or panel bottles, flasks or other containers to move in a straight-line or "Bee-Line" through the entire length of the labeler. This permits a continuous, smooth and steady movement of the containers from infeed to discharge. It does away with stops or detours and there is no shuttling, banging, jarring or jamming at the feed station or anywhere along the "Bee-line." Each container is automatically timed, positioned and sails right on through the labeler. Safe conduct is assured for lightweight glass containers.

The labeler incorporates an over-head bottle grip adjustment which makes it easy for one man to adjust all bottle grips to a different bottle size, as from quarts to fifths or pints. The Straightaway comes in the Hi-production model with twin label-



ing stations to handle two bottles at once while maintaining the same operating rate as the single station labeler. This means that double the capacity may be obtained without increasing optimum speed. The machine may be equipped with a double discharge conveyor which automatically separates the containers and distributes them to two conveyors with labels facing the packers on both sides of the packing tables. This saves handling.

The labelers are equipped for applying front labels only or for applying both front and back labels in one operation. Also for applying neck labels simultaneously with the body labels.

CONTAINER TAPING MACHINE

A semi-automatic machine made by the Vertex Co. applies tape around square or round containers to seal them against light and to protect the contents from insects and atmospheric conditions. Operation is continuous and from 1,000 containers upward per hour can be sealed depending on the skill of the opera-

tor and the size of the containers. The machine can be supplied with magazine feed, if desired, requires one operator and applies tape automatically. A pressure conveyor assures uniform and tight application of tape. It is particularly adaptable for situations where it might be desirable to replace expensive wrapping foils and tin containers with other materials such as cardboard boxes, as the tape will assure protection of contents.

MOLDED CREPE VELOUR PAPER

A line of crepe velour papers that can be readily formed and molded is offered by the Nashua Gummmed and Coated Paper Co. They can easily be adapted to packaging, come in many colors and metallic effects. Samples may be obtained by writing to the company for them.

STEEL SUBSTITUTE FOR ALUMINUM

An interesting substitution of welded steel for aluminum has been achieved by the F. X. Hooper Co., Inc., for round formed motor covers used on their Printer Slotters used in box plants to cover the electric compensating or running register devices. These covers represent an instance where the substitution of sectional welded steel was made without affecting utility or appearance. However, according to Gordon Stick, the company's Sales Manager, the welding together of the steel pieces entails more work than the single aluminum casting.

REPLACEMENT FOR ZINC

A corrosion resistant speed synthetic, which provides superior performance to galvanized metal at a fraction of the processing cost, is claimed by its makers for a new product by Roxalin Flexible Lacquer Co. They say this is the timely answer to the problem of licking corrosion without zinc-coated metal.

COATED BOARD AT UNCOATED PRICE

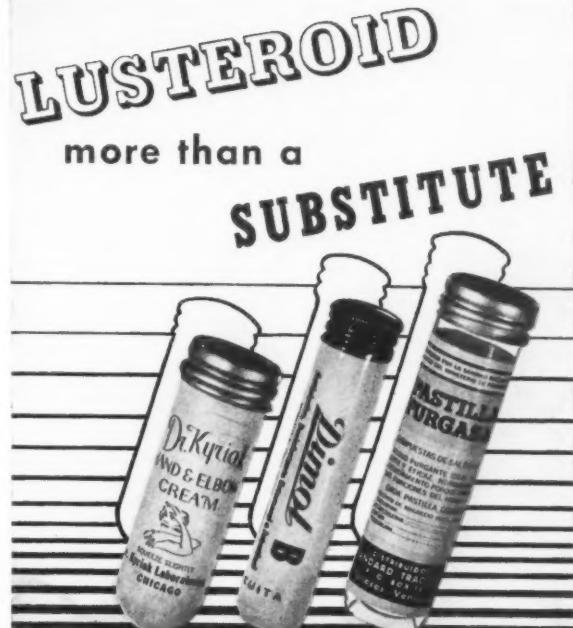
Particularly significant due to the shortages in certain materials for coating papers is a new boxboard (Coated Lithwhite) which has now been on the market long enough to have its points thoroughly tested. The process develops a surface which is very satisfactory for letter-press printing, including halftones and gloss inks. It has excellent folding qualities in either direction. The cost is moderate enough to enable the manufacturer to offer "coated board at an uncoated price."

ELECTRIC EYE SMOKE INDICATOR

Rehtron Corp. in collaboration with prominent combustion engineers has designed two moderately priced photoelectric smoke indication and elimination control robots for operation on 115-volt alternating or direct current. The units are easily installed and adjusted and are applicable to any type and size boiler, stoker or hand-fired coal burning with any grade coal or oil burner fired.

PRINTING ON CELLULOSE

Decided improvements in the process of impregnation of wet cellulose makes possible some of the finer printing effects such as half-tone and other special screen work in addition to the regular line cut and letter printing. E. I. du Pont de Nemours & Co., Inc., announces these improvements in connection with its technique of producing cellulose bands. Metallic effects in new and improved shades of gold and silver have also been developed within the last few months according to a report from that company.



Lusteroid rigid cellulose vials and tubes are more than mere substitutes for essential materials now on priorities critical lists. They are essential replacements—more, they are progressive replacements. For they have qualities all their own that make them both valuable and economical to use.

They are extremely lightweight—saving on shipping and packing. They are practically unbreakable, with all the resultant savings that this means. They come in all colors, and multicolor labels are processed to them integrally during the manufacturing process. They are smooth and pleasant to touch, come in sizes and shapes designed to fit consumer hands, pockets and purses. And, they will fit your budget.

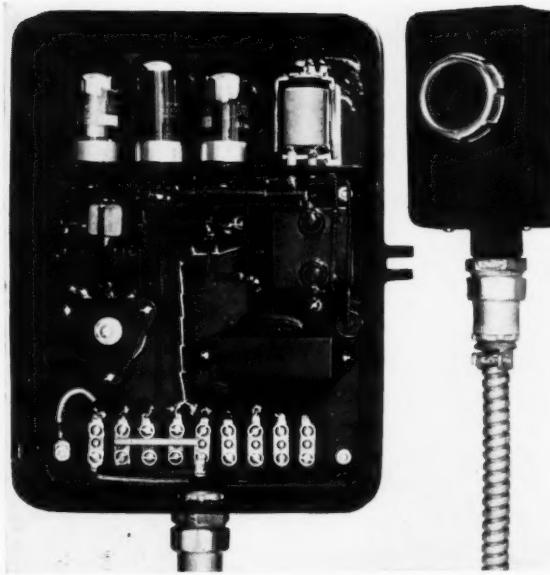
A note or phone call will bring an answer to your packaging problem.

LUSTEROID CONTAINER CO. Inc.

Formerly Lusteroid Division of the Silcocks-Miller Company

10 Parker Avenue, West

• South Orange, New Jersey



PHOTOELECTRIC INSPECTION AND REGISTER

Photoelectric inspection and registration control A80, produced by Photoswitch, Inc., offers a simplified system for accurately controlling or inspecting cutting and printing operations on transparent cellulose, paper, cloth, tin, metalfoil, etc. It is also used for detecting presence and absence of labels on cans and the proper location of labels on goods, as well as other similar applications. All amplifying tubes are standard vacuum type because of the simplified circuit and minimum number of parts, the control is rugged and low in cost.

This control combines extreme sensitivity with high speed operation. It observes registration marks from penetration of light through transparent and translucent materials as well as reflection from opaque materials. An impulse of as short a duration as .001 second will be detected by the control and converted into a controlling operation. Upon receiving an impulse, the control relay operates and remains in operation until the controlled circuit has completed its function, at which time the unit is reset automatically.

AUTOMATIC WRAPPING MACHINE

First test run of the world's largest automatic wrapping machine, completed after two years' development by the Package Machinery Co. was made recently. The machine, purchased by the Cuneo Press, will greatly facilitate packaging methods in the magazine and newspaper fields. It will handle approximately 100,000,000 pounds of periodicals per year, which if laid end to end would reach 23,000 miles, almost around the world.

TRANSPARENT BOX DEVELOPMENTS

A new method for simultaneously putting a bead on two edges of square, triangular and odd-shaped straight-edge transparent boxes has been developed by the Showbox Division of Central States Paper & Bag Co.

A new die construction method is enabling this same company to produce drawn covers automatically. The company is now double-beading all round and oval bodies. These developments have speeded up production and lowered costs of such products.

ADHESIVE TAPE WITH FELT BACKING

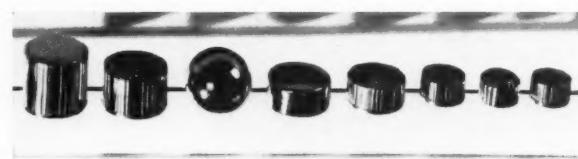
Development of a pressure-sensitive adhesive tape with wool felt backing is announced by the Industrial Tape Corp. This tape is useful for felt borders, liners or layers used for decorative, cushioning or reinforcing purposes. It comes in a variety of widths and thicknesses. Colors are available.

INDUSTRIAL MULTI-BREAKER

A new breaker affords economical application as a motor circuit switch or service disconnect switch. It is fuseless, with bimetallic strip actuation, visible trip indication and trip free lever. It is quick make and quick break, with a rated capacity of 230 volts from 15 to 100 amperes, available in 3 pole, 3 pole solid neutral or 4 pole solid neutral types. Calibration is set at the factory and cannot be tampered with. The breaker is completely enclosed and semi-dust-tight. Front access and operation make this breaker convenient, compact and economical of space. Made by Cutler-Hammer, Inc.

SPECIALIZED PRINTING EQUIPMENT

A. E. Marconetti, Inc., New York, has added several lines in the Eastern and Metropolitan area. For years he has offered personal service in connection with specialized printing equipment, embossing machines, rollers, etc. He has now widened his lines by taking over representation for Textile-Finishing Machinery Co. for their paper rollers used on embossing machines for the paper and paperboard trade. He is also representative for Stowe-Woodward, Inc., which manufactures the Vulpres composition roller; for Gravure Laboratories, Inc., manufacturers of rotogravure printing machines; for photoengraved printing rollers of The Linotone Corp.; for rubber printing rollers of the American Wringer Co.; for rubber roller aniline printing machines of the C. B. Henschel Mfg. Co.



METALLIC LUSTER FOR CLOSURES

The metallic luster of gold and nickel plating combines with the durable toughness of phenolic molding material for the distinctive new style in these closures. A newly developed process makes possible caps with the attractiveness of precious metals and the economy of plastics. The designs are executed in moldable plastic which is covered with a lasting film of metal. Closures are made by Owens-Illinois Glass Co. Phenolic molding material by Monsanto Chemical Co., Plastics Division.

HYDRAULIC LIFT TRUCKS

Lewis-Shepard Sales Corp. has announced extra-large hydraulic hand-lift trucks for handling large machine tools. These trucks can be furnished with capacities up to 35,000 lb. This company also presents a new, quick-locking harness to speed up and make easier the handling and dumping of barrels and drums.

Lyon Iron Works have issued a new piece of literature on their heavy-duty hydraulic trucks.

ANTIQUE CRETONNE



The contrast between cover and box illustrated above is made possible by reversing the color balance of design.

This technique affords unusual added eye appeal at no extra cost by utilizing

Antique Cretonne

The Marvellum Company

Papers Distinctive
HOLYOKE, MASSACHUSETTS

Distributors on reverse side

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NEW YORK CITY

Papers Distinctive

Speed
—and more speed
—for slow, difficult,
unusual marking
and trademarking

on any material, surface or shape. Where you finish, pack, stock, ship, put a Markem Machine to print, stamp, emboss, indent . . . better, faster, at less cost. Save unnecessary handling; reduce packaging inventories . . . speed to, and at, point of sale or use with more information . . . better identification.

For PLASTIC or GLASS product, part, container, there's a Markem Machine with rubber type or plate to prevent breakage and spoilage; instant dry inks contained in patented, enclosed reservoirs with automatic feed; work tables especially designed, if necessary, for your work. For instance, on cylindrical or tubular pieces such as bottles and cream jars. *Ask about Model PLA*

For PAPER labels and CARDBOARD folding and set-up boxes, there's a Markem Machine to print them when, as and if wanted . . . to reduce inventories . . . stop waiting. Fast and simplified type setting and type holders bring VD (variable designation) printing for package identification that speed up and increase sales. The printing cost is negligible. *Ask for Model BP*

For LEATHER and WOOD, there's a Markem Machine using electrically heated, thermostatically controlled, brass engraved types and dies. It uses either our famous Kemgo Process marking compounds, available in all metallic and flat colors, or roll leaf. Paint brush handles, baseball bats, leather goods and specialties, or what have you? Tell us so that we may recommend the most suitable equipment.

For METAL parts, casings and containers, there are Markem Equipments to (1) indent (2) simultaneously indent and color (3) surface print in one or more colors. Precision control of heat, pressure and dwell produce remarkably sharp, clear imprints of a permanent nature. Tell us about the material or surface you want marked or trademarked, and we will tell you how to do it better, faster, at less cost.

MARKEM MACHINE COMPANY
 INDUSTRIAL MARKING HEADQUARTERS
MARKING PRINTING • EMBOSsing
 STAMPING • INDENTING **MACHINES**
 For IDENTIFICATION • APPEARANCE • INSTRUCTION upon
 METAL • PLASTIC • GLASS • HARD RUBBER
 WOOD • FIBRE • LEATHER • FABRIC
 PRODUCTS • PARTS • CONTAINERS
 40 Emerald Street KEENE New Hampshire



This tiny plastic case measuring only $2\frac{5}{8}$ " by $1\frac{5}{8}$ ", contains a complete lighting arrangement of two batteries, a bulb and an ingenious switch. The adaptability of plastics to the contents of a package was never better illustrated than with this unique molded piece by Rathbun.

These beautiful, miniature-sized cases each contain three metal and one fiber insert to give proper contact and insulation. Abutments and indentations are molded directly into the case, affording each unit its snug, jarproof recess. Thus, perfect electrical contact is assured at all times and parts held securely in place even with case opened wide.

Opening and closing are instantaneous and definite through the use of two Triplex spring hinges—exclusive with Rathbun. These space-conserving, sturdy little hinges require considerable direct pull to open the case, yet upon opening wide—remain in that position until slight pressure causes them to spring back into normal position—closed and tight.

Through the practical and working evidence of these flashlight cases can be seen the extreme advantage of Rathbun Cases and Hinges in the miniature case field.

Our specialization in the designing and molding of fine plastic case needs, will insure your fullest satisfaction.

Rathbun
 MOLDING CORPORATION
 SALAMANCA, NEW YORK

Plants and Personalities



Here is Private L. W. Fenderson of the U. S. Ordnance School, receiving the first tin of sulfanilamide tablets, famous for potency in combating infection. George A. Mohlman, the interested onlooker in the picture, as Vice President of the Package Machinery Co., announced recently that his firm is placing sulfanilamide in United States army kits in a package specially designed for self-medication by a soldier if he were wounded and separated from his unit. A simple tape opens the well protected package.

In July at Taunton, Mass., the General Electric Co. opened its fifth plant for the manufacture of plastic parts. G. A. Gustafson is in charge. It is reported to be the third largest molding plant in the United States and both compression and injection types of molding are in operation there.

F. C. Walker has joined the Sales Promotion Staff of Sharp & Dohme (pharmaceuticals). In his new work, Mr. Walker will continue to direct the styling of packages both on the company's established products and on new products to be released.

Called to active duty with the basic map-making plant of the U. S. Army, James G. Strobridge, Vice President of The Strobridge Lithographing Co., New York, was given a leave of absence to report to the Army War College, Washington, on July 14.

A new plant to be built by the American Can Co. near St. Paul at a cost of several million dollars is designed to take care of the company's increasing general line and packers' can business in the territory which includes primarily Minnesota, Iowa, Montana and part of Wisconsin.

Beginning with last July 1, Quincy P. Emery and staff became affiliated with The Stevens-Nelson Paper Corp., New York.

Cooperating with the Office of Production Management in Washington, Bristol-Myers Co. has approved the release of two of its production executives for part-time service as OPM trainers. They are Palmer J. Lathrop, Manager of the Newark, N. J., plant of the Rubberset Co., a subsidiary, and Edward W. Love, Production Manager at the main plant, Hillside, N. J.

The Chicago Society of Industrial Designers has elected Kenneth W. Olson of Olson Designers, Chicago, president of the society.

John M. Richardson, Chairman of the Board of Directors of The Gardner-Richardson Co., Middletown, Ohio, died at his home in Cincinnati, June 10.

Minnesota Mining & Mfg. Co., St. Paul, announces the construction of a new factory for housing their tape department. Construction of the first unit of the plant is being started this summer and completion of this initial portion is scheduled by the end of 1941. It will consist of a one-story and basement and will contain 30,000 sq. ft. of space. When it is completed, more than 200 new employees will be added to the tape department.

A. J. Vits, President of the Aluminum Goods Mfg. Co., Manitowoc, Wis., announces the appointment of Walter F. Bugenhagen, former General Sales Manager, as Vice President of the firm. Mr. Bugenhagen joined the Company in 1910.

A \$200,000,000 expansion program to supply defense industries with aluminum ingot and fabricated products is announced by the Aluminum Co. of America. Under this program plants in Los Angeles and Lafayette, Ind., are being expanded and improved. At the start of the war, the Vernon works just outside Los Angeles had a capacity of 100,000 lb. of aluminum alloy forgings and 424,000 lb. of sand and permanent-mold castings a month. Very shortly the company expects the sand and permanent-mold casting capacity will have been increased to 593,000 lb., an increase of 40 per cent, and the forging capacity to 450,000 lb. a month, an increase of 350 per cent. The new extrusion plant will be turning out extruded shapes at the rate of 1,019,000 lb. monthly and the new rivet plant, rivets at the rate of 70,000 lb., while by March 1942 the forging capacity of the Vernon works will have been increased an additional 50,000 lb. monthly.

A fairly new plant at Lafayette has increased its capacity from 695,000 lb. of extruded shapes and 122,000 lb. of tubing a month in 1939 to an expected 4,256,000 lb. extruded shape capacity monthly and tubing capacity of 1,034,000 lb. by December of this year. Production in these alone will thus have been stepped up from six to nine times that of 1939.

NEW PLANT FOR ALUMINUM CO. OF AMERICA





ALBERT E. HEEKIN



DANIEL M. HEEKIN

One of the pioneers in the field of packaging. The Heekin Can Co., of Cincinnati and Norwood, Ohio, celebrates its 40th anniversary this August. The original factory was opened in August 1901 by Albert E. Heekin, now for many years president of the company, on the banks of the famous Miami-Erie Canal that ran from the Great Lakes to the Ohio River. Today the canal has vanished, but near the original site stands one of the many large Heekin can factories still specializing in lithographed cans of all kinds. Associated with Mr. Heekin in the company are his younger brother, Daniel M. Heekin, Secretary and Treasurer, and Walter Heekin in charge of purchasing and advertising.

A three-story addition to their plant has just been completed and fully equipped by the Baltimore Paint & Color Works, Inc. New space amounts to approximately 12,000 sq. ft. Ground was broken recently also for another two-story addition.

At its meeting of June 23. The Gardner-Richardson Co.'s Board of Directors selected C. L. Keller, a board member, as Chairman of the Board. At the same meeting, Robert R. Richardson was elected to fill the Board vacancy created by the death of J. M. Richardson and was named company Secretary. Officers of the company are: C. L. Keller, Chairman of the Board; E. T. Gardner, President and General Manager; Colin Gardner, Vice President; W. H. Richardson, Vice President; W. S. LaRue, Vice President; W. E. Sooy, Vice President; Robert R. Richardson, Secretary; Robert B. Gardner, Assistant Secretary; M. S. Johnston, Treasurer; J. J. Hain, Assistant Treasurer; R. O. Brosius, Assistant Treasurer, E. T. Gardner, Jr., Assistant to the President.

Hercules Powder Co. purchased recently the synthetic resins business of John D. Lewis, Inc., of Providence, R. I. The Lewis company will continue to operate independently, producing textiles and heavy chemicals.

Reorganization and new management are reported by the Gravure Laboratories, Inc., Babylon, L. I., N. Y. Carleton B. Howell is the new president.

Officers whose elections were reported at the Second Annual Food Conference of the Institute of Food Technologists, Hotel William Penn, Pittsburgh, were: President, Dr. L. V. Burton, Editor, Food Industries; Vice President, Dr. E. H. Harvey, Director of Research, Anheuser Busch Brewing Co., St. Louis, Mo.; Secretary-Treasurer, Dr. George J. Hucker, Chief of Research, New York State Agricultural Experiment Station, Geneva, N. Y.; and the five new Councilors are: Dr. D. K. Tressler, Head of the Division of Chemistry, New York State Agricultural Station, Geneva, N. Y.; Dr. C. H. Bailey, Acting Director, Minnesota Agricultural Experiment Station, St. Paul, Minn.; Dr. F. F. Fitzgerald, Director of Research, American Can Co., New York City; Dr. R. Adams Dutcher, Head, Department of Agricultural and Biological Chemistry, Pennsylvania State College.

CELLUPLASTIC shatter-proof CONTAINERS

Look better - SAVE MONEY!



*You've got to see a Sample
To see how good they are!
Write and tell us what your product is*

SEAMLESS • SHATTERPROOF • FEATHERLITE
COLORFUL • PROCESS - LABELED in manufacture

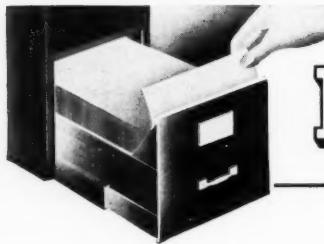


Celluplastics are the most modern containers that money can buy—as economical as they are beautiful and shatterproof! For a package, see samples. Note the attractive color treatment and integral labeling, the featherlite daintiness that saves money in packing and shipping. Note the merchandising appeal in convenience and design.

Our Package-design department is at your service—why not use it for your product?

CELLUPLASTIC CORPORATION

Executive Offices and Plant: 50 Avenue L, NEWARK, N. J.
New York Display Offices — 626 Fifth Avenue



For Your Information File

Representing the combined opinions of market and fashion experts, the 1941 Fall Color Card, the official NRDGA Basic Ensemble, is now ready for distribution. It shows swatches of the basic colors for dress, casual and sports coats and suits, costumes and wool dresses, rayon street dresses, millinery and shoes for early fall selling.

Opened July 1 were six new field offices of the Priorities Division of OPM at St. Louis, Denver, Detroit, Cleveland, Dallas and Pittsburgh with District Managers available to aid business men and manufacturers who need information or advice in connection with the Priorities systems. These may be reached through the Federal Reserve Banks.

"Informative Selling" is the title of a booklet published by the National Consumer-Retailer Council, Inc., usable for adult study groups as well as a guide to merchandisers. Price \$1.00; can be obtained from the above organization located at 8 West 40th St., New York City.

Basic ingredients required for glass manufacture show no signs of shortages, according to Eugene F. Bertrand of Owens-Illinois Glass Co. Buyers, however, should give a leeway of at least 24 hours in rail shipments and regard truck deliveries as less dependable than in the past. Mr. Bertrand recommends loading freight cars to capacity to help relieve car shortage.

Fifth Annual Packaging Show conducted by The Spice Mill is announced by that magazine. Entries of containers for coffee, tea and spices will close August 15. Winning packages will be viewed at the National Coffee Convention at White Sulphur Springs, W. Va., September 8 to 10.

"Make Paper Make Money For You," Nashua Gummmed and Coated Paper Co.'s new booklet, handsomely and attractively tells the story of making special coated papers, also illustrates methods of utilizing these papers effectively for packaging purposes. In addition it contains many useful points on development and preparation of a specialized line of packaging materials. Typographically excellent, handsomely bound in Nashua's own Velour Cover, the book is obtainable on application to the manufacturers located at Nashua, N. H.

Users of the graphic arts will read with interest Harris-Seybold-Potter Co.'s "Your Next Move," an up-to-the-minute review of basic methods of printing, historical evolution of offset lithography and modern lithographic equipment. Any buyer of printing should send for this book. A 1,200-ft. kodachrome 16-mm. silent film explaining the offset lithographic process in detail is being made available for use by graphic arts clubs, advertising clubs and schools.

The Bureau of the Census has issued a report on Retail Trade for 1939 by Types of Operation. This is in the form of a 160-page booklet packed with statistical information covering the entire United States, showing the retail structure in 32 types of outlets, volume sales, number of employees, etc. The publication is obtained from the Superintendent of Documents, Government Printing Office at Washington at \$.25 per copy.

Celebrating 75 years of service, W. C. Ritchie & Co., Chicago has issued a 16-page booklet showing colorfully and pictorially the firm's contribution to packaging progress.

The Division of Simplified Practice, Department of Commerce, announces reaffirmation without change of Simplified Practice Recommendations governing packaging of automotive engine parts and electric railway parts. Copies of Recommendations may be obtained at \$.05 each from the Government Printing Office, Washington, D. C.

Of interest to honey producers, revision of Simplified Practice Recommendations applicable to containers for extracted honey may be obtained free in mimeographed form from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C. Current revision includes a small package of 2 oz. as a recommended standard size for individual serving in restaurants or diners and for the retail trade.

Sherman Paper Products Corp. offers its "Autumn Display Guide" and "Display Guide for Christmas 1941" booklets, obtainable without charge.

National Industrial Advertisers Assn., Inc., will hold their Annual Conference in Toronto, September 17 to 19, headquartering at the Royal York Hotel.

"What Is The Value of Color in Packaging?" a booklet issued by the Eagle Printing Ink Co., New York, N. Y., contains fact, opinion and experience regarding uses of color on packages.

An example of promoting package material by way of promoting the product is afforded by Continental Can Co.'s small booklet, "How to Become an Expert on These Summer Drinks," as featured in current advertising in consumer publications.

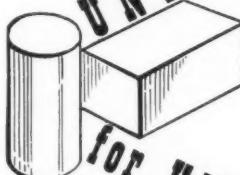
Go 'round the calendar with Advertising Age by means of their new booklet "Packaging and Display Merchandise" and you will realize two things: (1) How obvious it is that packaging is advertising, and (2) how intelligently that fact is recognized by an advertising publication. Send for this booklet—it's worth a review.

The display user may get a new thought from a review of the latest booklet put out by Kay Displays, Inc., New York, N. Y., entitled "Give Yourself and Your Dealers the Best Beer Displays in Your Territory."

A deluxe edition of Christmas paper swatches, forecasting seasonal trends in color, design and finishes, has just been published by Charles W. Williams & Co., Inc.

"Can You Sit Back?" is the title of a new folder published by the Pneumatic Scale Corp., Ltd., meaning, "Can you sit back with no worries over production?" This describes the company's complete packaging-bottling hook-ups.

UNION ADHESIVES
FOR UNIFIED PACKAGES



A package is just a collection of paper, board and ink—without the proper adhesive. And the proper adhesive is the one that will hold the package parts properly together as long as merchandising requires. In other words, a strong package requires a strong adhesive—one that will resist climate and weather and rough handling, and one that will not deteriorate during the effective life of the package.

All of which adds up to this: Union makes adhesives of every type for every purpose. We have (1) a stock formula for your need or (2) we will put at your service our laboratory to devise just the adhesive you require. In either case, the product will be of the highest quality by virtue of our 75 years of adhesive development and manufacture.

Call or write.



Union Paste Company

1605 HYDE PARK AVENUE • HYDE PARK, MASS.

**50,000
Packages a Day!
... 2 every second!**



That's what
LAMSON
is doing for
SPRAGUE-WARNER



Sprague-Warner, big Chicago wholesale grocers, called in Lamson Conveyor Engineers when their hand-trucking was causing costly confusion . . . losing valuable time. Now 36 Lamson belt and gravity package conveyors have converted all motion into straightline flow—*moving 2 packages per second!*

**LAMSON CONVEYORS BRING
MORE SPEED . . . DEPENDABILITY**

Whether you have to move 50,000 or 1,000,000 units a day, Lamson conveyors can be depended upon to do the job. If your problem calls for reducing handling costs, freeing men for more productive work, relieving congested aisles, or utilizing every possible foot of floor space, then write us today. Get the complete facts on Lamson Package Conveyors. Mail the coupon now—we will send you helpful folder immediately!

LAMSON CONVEYORS

Lamson Corporation
708 Lamson St., Syracuse, N. Y.
Without cost or obligation, send me your new folder on
Lamson Package Conveyors.

Name Title

Company

Address

Let light boost your output

(Continued from page 93) produces some light and an abundance of short-wave ultraviolet energy. The ultraviolet is scarcely visible to the eyes, but the fluorescent chemicals coated on the inside of the tube transform these rays to visible light.

The Mazda F lamps in most common use for general lighting in industry are the 40- and 100-watt sizes. The smaller sizes (such as the 15-, 20- and 30-watt lamps) find many supplementary lighting applications. Mazda F lamps are available in either the daylight or white color. The latter have the higher efficiency.

Since the fluorescent lamp is essentially an arc source, it requires auxiliary equipment to provide the proper starting and operating voltages. Mazda F lamp auxiliary equipment consists of (1) a choke coil (called the ballast) to limit the current flow and (2) a small automatic starting switch which allows the lamp electrodes to become heated before the arc begins. The switch is contained within a small aluminum can. The assembly is called the "starter." It is frequently mounted with one lampholder; the end of the starter projects through the reflector housing for easy replacement.

Mazda F lamps operate on alternating current which means that the mercury goes through a cyclic variation similar to the line voltage. This variation causes slight fluctuation in the light output known as stroboscopic effect or flicker which may be objectionable when there are moving objects or machinery in operation. However, double choke units known as Tulamp ballasts have been developed which operate a pair of lamps on a balanced circuit and minimize the stroboscopic effect. Tulamp ballasts also offer the advantage of nearly unity power factor, insuring the customer of the maximum utilization of his wiring capacity.

Another type of fluorescent lamp is the type RF lamp which transforms alternating current through its ballast and the lamp into a rectified mercury arc. Consequently, the light output does not vary as do Mazda F lamps and a single lamp may be used without annoyance due to flicker. The RF lamp is rated at 85 watts and can be obtained in either a blue-white or industrial-white color. Both are psychologically cool.

The fundamental concept of illumination design remains unchanged regardless of the illuminant involved. Many of the early misunderstandings about fluorescent lighting would have been explained by the realization that there is nothing mysterious about the light from Mazda F lamps. Equal amounts of fluorescent, filament or any other kind of light if used under similar conditions will produce equal footcandle levels.

While the size, shape and characteristics of the fluorescent lamp required radically new designs of reflecting equipment, many types of luminaires have been developed and are now commercially available.

The RLM fluorescent luminaire, available for either two 40-watt or two 100-watt Mazda F lamps, has been particularly popular. In the latest RLM fixture designs the reflectors are easily removable for proper cleaning.

Notable results have been obtained in lighting industrial areas by mounting units end-to-end to produce the higher levels of illumination with a minimum of shadows. Such installations using continuous wiring channel also effect a reduction in wiring cost. The fluorescent "troffer" has also been used in some factory lighting installations. The word "troffer" means a combination of trough and coffer in which continuous rows of fluorescent lamps are well shielded in louvered troughs usually recessed in the ceiling. Many such office installations have been made. In these, the fluorescent troffer replaces a row of acoustical material in the conventional suspended acoustical ceiling.

Needless to say, luminaires should be appraised for efficiency, ease of cleaning, appearance and electrical and mechanical qualities. It should also be remembered in planning a fluorescent system that the principles of illumination such as acceptance brightness, reflected glare, distribution of light, contrast and shadows remain unchanged. Guide posts to the selection of equipments on the basis of electrical and mechanical qualities are found in the form of Fleur-O-Lier and RLM labels. They also indicate that the product has passed certain specifications for its illuminating qualities.

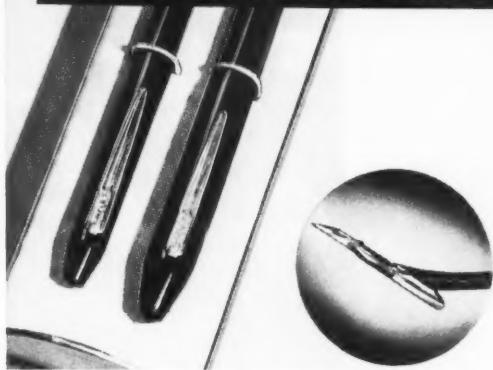
Because of the diversity of equipment layouts, types of machinery, relationships to the production line and other factory processes, it is difficult and impractical to make specific recommendations of the lighting of packaging departments. The advice of a competent lighting engineer should be obtained in selecting the illuminant and type of lighting system so that optimum seeing conditions can be planned.

Many industrial executives are planning their fluorescent lighting systems so that illumination levels of even 50 or more footcandles can be increased at a later date without too much expense. There are several ways of making such provisions. For example, numerous 2-lamp reflecting equipments are available with socket holes punched for the third lamp. This enables a 50 per cent increase in footcandles without too much trouble later. Or, the layout can be planned so that additional fixtures can be conveniently added later.

Microbiology of paper containers

(Continued from page 47) are in common use. Hence, while rinse counts of the inner surfaces of the two kinds of containers are comparable, it is sometimes possible to obtain somewhat larger residual counts, after rinsing, from containers that are not wax-coated or poorly coated than from containers that are well impregnated and coated with wax. However, nearly all of the mills that manufacture paper and paperboard for perishable food packages are producing stock of high sanitary quality which is reflected in its low bacterial content. The sanitary protection of this stock, provided by many converting plants, is yielding paper products of uniformly high bacteriological quality.

BARBED MOUNTING ELASTICS



For quick mounting of pens, pencils, cosmetics, sun glasses, combs, novelty jewelry and hundreds of other items to set-up boxes, folding cartons, dispensing displays. Barbed at both ends for easy insertion through tough board. Comes in any length the product requires, to hold one item or one hundred. Plenty of stretch to hold the heavier products firmly for a long shelf or counter life. Rayon Braided in 10 attractive colors to fit every ensemble—flat or round.

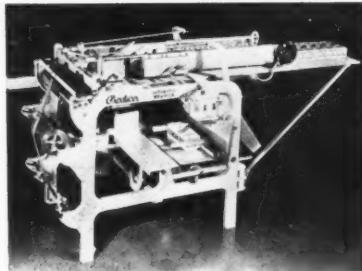
U. S. Patents Nos. 2,097,887, 2,121,973 and 2,091,529.

EQUALITY NOVELTY CORP.
42 West 38th Street NEW YORK, N. Y.

WHAT IS YOUR PROBLEM?

There may be a happy solution awaiting you in

The VARIETY automatic wrapper



ONLY
\$985

F.O.B. Rock Island
1000 pkgs.
per hour

It is serving an ever increasing number of users . . . handling a wide variety of merchandise . . . turning out neat, attractive packages and, with very low investment, eliminating laborious hand wrapping.

So simple anyone can operate it.

Send us samples and let us advise you what the VARIETY wrapper will do for you.

MANUFACTURERS' REPRESENTATIVES NOTE: There are a few promising territories open for representation.

GELLMAN MANUFACTURING CO.

Specializing in wrapping equipment—11th YEAR

EASTERN OFFICE and DISPLAY
1920—6th Ave., New York City

HOME OFFICE and FACTORY
Rock Island, Ill.



Birdseed, mushrooms, cigars; razor blades, chewing gum, cosmetics . . . just a few of the products successfully packaged and displayed by "U-S".

Although the size, type and construction of these cartons and display containers vary as much as the products themselves, they meet on common ground in one particular and that is "U-S" Uniform Quality.

The experience of many years of packaging is at your command at "U-S". Perhaps we can serve your product by solving your packaging problems.

The **U.S. STATES PRINTING & LITHOGRAPH COMPANY**
AND DIVISIONS

HOME OFFICE: 328 BEECH ST., CINCINNATI, OHIO
Plants at CINCINNATI • BROOKLYN • BALTIMORE • ERIE, PA. • ST. CHARLES, ILL.

Wax that "blooms"

(Continued from page 41) the paraffin occurs. The water-waxing unit is necessary, since the action of the new wax is dependent upon a partial crystallization from the blend, obtainable only by a quick drop in temperature. Luster, too, which is highly desirable, is dependent upon this lowering of temperature that only the water-waxing unit can give. Because temperature plays such an important part, a thermostatically controlled system is suggested for assurance of consistently good results.

Excellent results are now being obtained by the addition of this new synthetic blend to 138-140 EMP paraffin. The waxes are melted together with slow agitation to insure complete blending up to 240° F. From this point on, the converter need only to apply regular procedure of his waxing system.

Paper made with this new wax is now being utilized for wrapping of caramels, hard candies, chocolates, etc. Advantages which are pointed out are: lowering of cost by as much as one-half, increased temperature limits of wrapping and storing conditions by virtue of a higher melting film surface, increased luster of the wrapper lending itself to greater sales appeal and good sheet flexibility for automatic wrapping.

"Ethical" packaging

(Continued from page 89) completely manual.

The fact that the Nutley plant now handles all of the company's export business formerly handled by the Swiss branch has complicated their production problems considerably. Each country has its own custom regulations requiring the affixing of special stamps. Because each must be done separately, the operations are all handled manually.

An interesting feature of this plant is the way in which vacations are allotted. The plant is shut down for two weeks in July. Every employee is given two weeks' pay and told not to come to work for 14 days. In order to accomplish this, inventories must be built up to tide over the two weeks' operating lapse. A skeleton shipping force is kept during the two weeks.

The value of plant appearance is almost inestimable from the Hoffmann-La Roche point of view. Many doctors visit the plant and the appearance has the desired effect of reassuring the medical profession that its source of supplies is as surgically clean as the hospitals and the medical offices in which they are used.

Credits: Bottling—filler by The Karl Kiefer Machine Co. Capper by Consolidated Packaging Machinery Corp. Labeler by Edward Ermold Co. Tablet Counter by Ivers-Lee Co. Conveyors by Container Equipment Corp. and The Karl Kiefer Machine Co. Additional Labelers by New Jersey Machine Corp. Wrappers by Scandia Mfg. Co.

Pointers on paint

(Continued from page 97) or colors. The most satisfactory kind to use will dry quickly with a minimum of odor. Good grades perform well on damp walls, in cold rooms. With exercise of reasonable care they can be applied to refrigerator interiors without affecting the contents while painting is going on.

The adoption of air-conditioning is also gaining great favor, especially where control of temperature and degree of humidity are essential in certain processes and in further controlling dust and fume conditions. Where good grades of paints are used as recommended, no painting problem results. In general, the performance of the paint in controlling mold is materially improved by air-conditioning apparatus, providing there is effective filtration of the air stream.

Painting Steel and Iron Surfaces

Structural steel and iron surfaces, interior as well as exterior, are best treated by the application of a lead chromate base paint after removing all rust, scale, grease and moisture from the surfaces. The lead chromate type metal primer will inhibit corrosion and stands months of abuse and wear, even though the application of a suitable final coating may be delayed. Final coatings of metallic, graphite-carbon paint or prepared building paint (for special colors or white) will be found satisfactory. Where heat is extreme, heat and fume-resisting metallic paints are to be preferred.

Enamels known as engine enamels will withstand appreciable amounts of heat and combine a choice of colors with a smooth lustrous finish. Radiators should be painted with white or light tints. Aluminum paints applied to radiators result in reduction in heat radiation of approximately 17 per cent, as compared with white and light tints. This is an important consideration in painting pumps, air compressors and other units as well as radiators, where it is desirable to dissipate heat as rapidly as possible. (Applied to a radiator, white paint will noticeably increase the efficiency of the radiator.)

The selection of the right type of finish of a good grade is fundamental in achieving the desirable attractive appearance, lasting serviceability and reduced operating and maintenance costs. It is a means of improving illumination without increasing current costs, reducing accidents, improving employee morale and enhancing the appearance of the building. Most important of all, proper painting procedures afford better control of production and the final quality. Leading paint manufacturers offer, without obligation, the full facilities of their laboratories in preparing painting standard and procedure charts for firms desiring to put painting on a scientific production and cost basis. In the last analysis, the adoption of a standardized program is the simplest and best answer to effective painting.

Identified by
this Crimped end

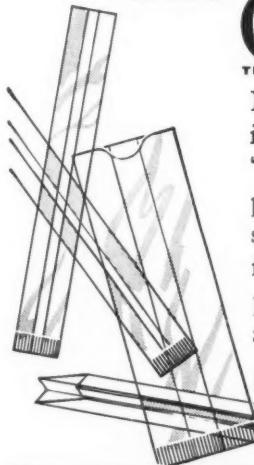
HUMITUBE

TRADE MARK REG.

THE ORIGINAL READY-MADE,
CRIMP BOTTOM POUCHES

MADE OF

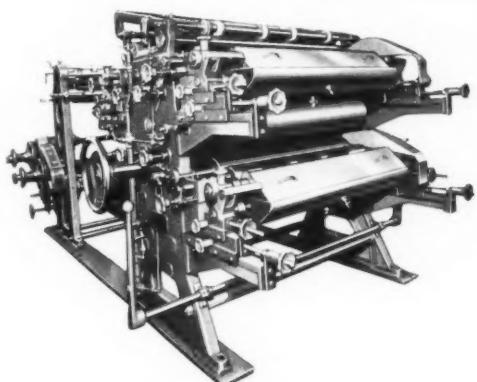
Cellophane
TRADE MARK
THE DUPONT CELLULOSE FILM



Nationally known as the leading manufacturer of small "Cellophane" containers for packaging light weight articles such as candy, cigars, carded items, pocket knives, pens, pencils, nut meats, fish lures and hundreds of other items.

HUMITUBE MFG. CO.

Converters of
"Cellophane"
PEORIA, ILLINOIS



ANILINE PRINTING PRESSES

A specially designed unit for each and every purpose to which this new and popular process has been applied. One to four colors. Any widths. Units may be used with aniline inks, water soluble inks or soft oil inks.

Specially designed sheeter for use with our presses with speed up to 300 lineal feet of sheeted stock per minute.

HUDSON-SHARP

MACHINE CO. • GREEN BAY • WIS



MORRILL
Presents

WANT TO BAG
YOUR PRODUCT?



Morrill has a line of Regular and Washout Cotton Bag and Burlap inks which will help you 'bag' your market. These inks are nationally renowned for their brilliant, clean, opaque colors and their fine working properties. A wide range of colors allows sufficient scope to supply almost any requirement. Get in touch with us for further particulars.

GEO. H. MORRILL CO.

DIVISION GENERAL PRINTING INK CORPORATION

100 SIXTH AVENUE, NEW YORK, N. Y.

Boston • Philadelphia • Chicago • Detroit

St. Louis • Fort Worth • Minneapolis

San Francisco • Los Angeles • Seattle

U. S. patent digest

(Continued from page 74)

trimming and creasing the collapsed mouth of a filled paper bag preparatory to forming its closure. The device consists of a main frame made up of vertical bars on which slide the creasing and trimming device together with an assembly for registering and folding the edges which are to be closed.

PACKAGE FORMING AND FILLING MACHINE. L. L. Salfisberg (to Ivers-Lee Co., Newark, N. J.). U. S. 2,245,827, June 17. A device for forming and filling packages continuously by forming the product into layers of material in passing same vertically downward with a step by step movement. The layers are formed together into a bag-like container having an open end, and depositing the substance to be packaged into the container, closing the open end at the next step, feeding strips of material to form a chain of closed containers, and placing a label beneath the lower edge of the endmost closed container at the end of the step of movement through the machine.

WRAPPING MACHINE. E. L. Smith (to Package Machinery Co., Springfield, Mass.). U. S. 2,246,268, June 17. An automatic device for wrapping, consisting of means for depositing a partially wrapped article having a trailing wrapper extension. The article is then conveyed to creasing members located in the path of the wrapper extension. The creasing member is tapered to roll the forward sides of the extension towards its center and to flatten the forward edge in that condition. Folding means are made to operate to turn the flattened wrapper extension onto a face of the article.

AUTOMATIC WRAPPING MACHINE. A. J. Matter (to E. B. Fallon, Chicago, Ill.). U. S. 2,246,525, June 24. A machine for applying wrappers with overhanging edges and having a mechanism for folding these edges onto the ends of a roll. The wrapping and folding mechanisms include a pair of spindles having toothed ends adapted to enter openings at both ends, and to support and rotate the rolls during both the wrapping and folding operation.

METHOD AND MEANS FOR PROCESSING LATEX. T. Hoenemann & H. A. Stuart (to Goodyear Footwear Corp., Providence, R. I.). U. S. 2,244,948, June 10. A device for processing a latex solution consisting of a trough for holding a bath of latex and a rotating drum arranged in the trough so that a portion of its circumference is submerged in the latex. This picks up a thin film of the rubber emulsion onto a conveyor belt where it is dried and subsequently stripped in film form as a sheet of rubber material.

ADHESIVE DISPLAY. K. E. Palmer (to The Leaton Corp., Chicago, Ill.). U. S. 2,246,984, June 24. An adhesive display unit made of a flexible material having its back covered with a pressure sensitive adhesive and a non-adhesive flexible cover sheet, which is peelable from it. The sheet is cut to form a severed portion defined by a plurality of edges of the display units, and by lines cut intersecting the edges and forming a corner cut upon the cover sheet of the unit.

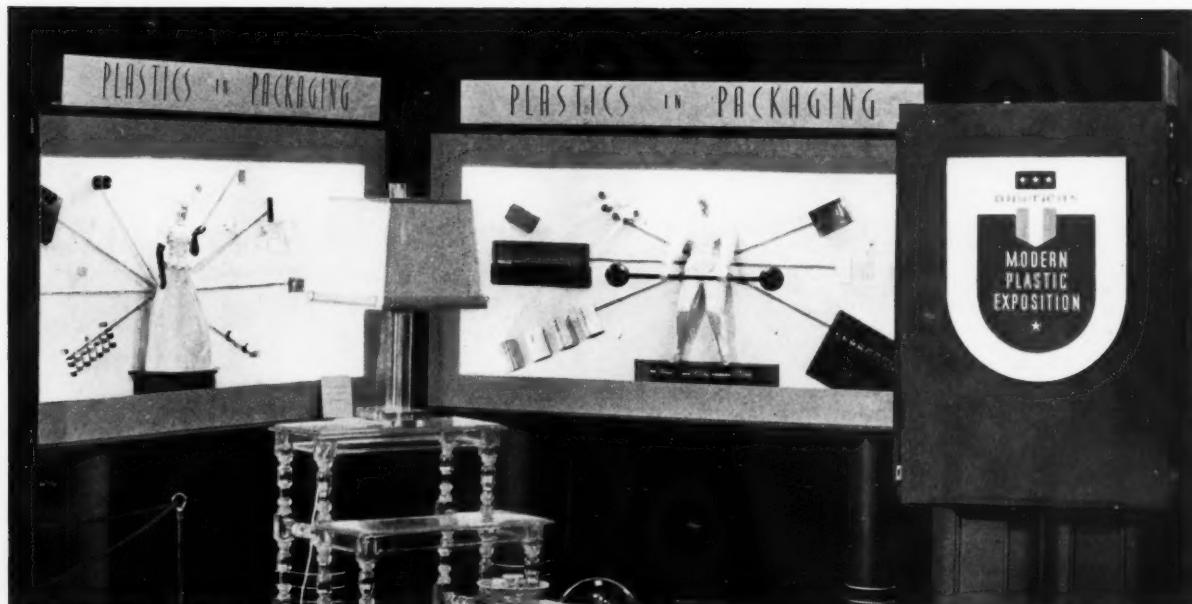
Plastics in packaging

The whole story of plastics in packaging and the dramatic rôle of these new materials in the evolution of packaged goods is told in one of the most comprehensive and satisfying exhibitions of the plastics industry ever assembled. Collaboration of C. A. Breskin, publisher of Modern Packaging and Modern Plastics magazines, and W. L. Stensgaard and Associates, Inc., has resulted in a show for which department stores have been seeking.

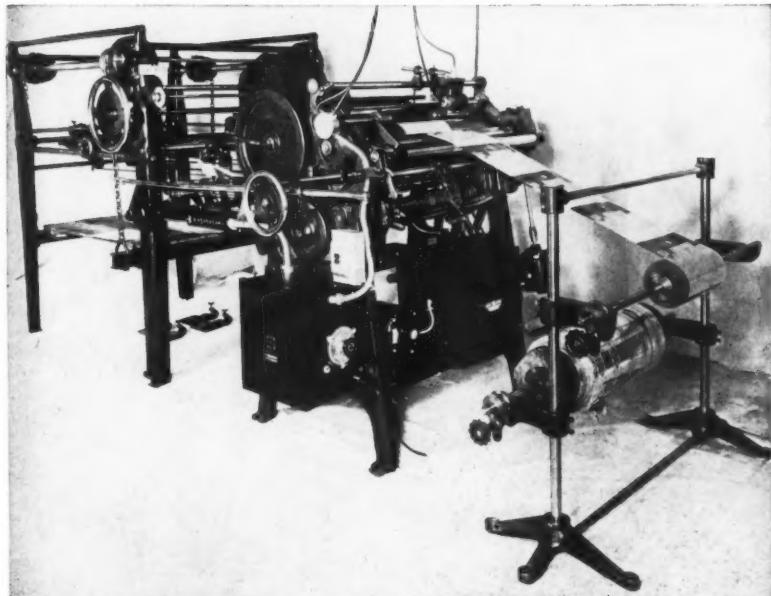
Pictured here are panels devoted to packaging as shown by the

Joseph Horne Co. department store, Pittsburgh, Pa., which was typical of the presentation set-up for leading department stores. Because of intense interest, the exhibit was held over an additional two weeks in Pittsburgh. It was then shown at the Fair Store, Inc., Chicago, Ill. Prior to the Pittsburgh showing, the exhibit was at Elder and Johnson's, Dayton, Ohio.

Every store showing the exposition is serviced with a well-planned promotional program for in-store activity as well as for local press and radio publicity. Prizes are offered in an essay contest, "The Future of Plastics," sponsored by Modern Plastics for students and adults.



MORE AND MORE THE ELECTRIC-EYE BECOMES THE AGENT



by which "spot sheeting" is reduced to a simple and accurate operation. The new Amplidyne type of Eye now used, makes for still closer accuracies than before and greater freedom from variation.

BECK Automatic SHEETERS with ELECTRIC-EYE Controlled DIFFERENTIAL & Automatic Lowering Table SHEET PILER

in the latest "streamlined" model the sheeter having the new solid side-frames and more rugged centre braces, are designed to overcome vibration when running at high speeds.

If you have some specially "knotty" sheeting problem, may we help you solve it as we have done for your competitor?

CHARLES BECK MACHINE COMPANY

13th & Callowhill Sts.

Philadelphia

CLASSIFIED

WANTED: Sales representatives to handle quality decalcomania designs, made to order. Stock identification name plate decals. Several territories open. Reply Box 141, Modern Packaging.

GIFT WRAPPING SUPPLIES SALES-MEN WANTED: New patented gift packaging line, successfully introduced and proved by leading department stores. Excellent Christmas feature. All territories open. Prefer men who cover department stores and who want to add a worth-selling year 'round repeat item. Commission 20%. Write, informing territory covered and your background. Samuel Eppy, 254 W. 31 St., New York City.

This Space Will Henceforth Be Devoted To Classified Advertisements.

Classified advertisements may be inserted at the nominal rate. \$5.00 per inch. Minimum space—1 inch. About six words per line, 10 lines per inch.

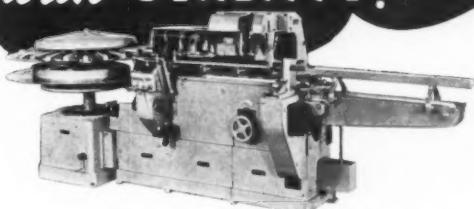
ADVERTISEMENTS Will Be Restricted To Those Of a Helpful Nature.

Positions Wanted, Help Wanted, Lines Wanted are typical categories.

Address: Classified Advertisements

MODERN PACKAGING MAGAZINE
122 East 42nd Street - New York City

**SAVINGS as high as
\$300⁰⁰ PER MONTH
with SEALTITE!**



Yes! That's a fact! Savings up to \$300.00 per month per machine are reported by users of SealTite bag sealers. A machine soon pays for itself when it effects savings like that.

For packaging coffee, flour, sugar and similar products usually packed in paper bags, SealTite produces the ideal closure. The machine uses any standard intuck or gusseted paper bag. So you save the additional cost of a special bag.

Sealtite is entirely automatic. It produces a trim, sift-proof, attractive package at speeds up to 40 per minute. The SealTite package has a square, flat top that permits stacking like a carton. It is easily opened and re-sealed, and its attractive appearance has definite sales appeal.

If you pack in paper bags, be sure to investigate this modern way to produce a more attractive package at greatly reduced cost.

**CONSOLIDATED
PACKAGING MACHINERY CORP.**
1400 WEST AVENUE
BUFFALO, N. Y.

Index of Advertisers

Aluminum Seal Co.	27	Kalamazoo Vegetable Parchment Co.	4
American Can Co.	Inside Front Cover	Kimble Glass Co.	23
American Cyanamid Co.; Plastics Div.	Back Cover		
Anchor Hocking Glass Corp.	18		
Armstrong Cork Co.	6-7		
Chas. Beck Machine Co.	111	Lamson Corp.	105
Bethlehem Steel Co.	14	Lowe Paper Co.	76
Bostitch, Inc.	30	Lusteroid Container Co., Inc.	99
F. N. Burt Co., Inc.	65		
Celluloid Corp.	Insert 8-9	Marvellum Company	Insert 100-101
Celluplastic Corp.	103	Markem Machine Co.	101
Chicago Printed String Co.	29	Michigan Carton Co.	Inside Back Cover
Classified	111	Geo. H. Morrill Co.	109
Consolidated Packaging Machinery Corp.	111	Mundet Cork Corp.	20
Continental Can Co.	Insert 16-17		
Crown Can Co.	75	Nashua Gummed & Coated Paper Co.	Insert 18-19
Crown Cork & Seal Co.	67	National Can Corp.	15
Dow Chemical Co.	73	National Industrial Advertisers Assn., Inc.	28
E. I. du Pont de Nemours & Co., Inc., Cel-O-Seal Section	12	Owens-Illinois Glass Co.	10-11
E. I. du Pont de Nemours & Co., Inc., Cellophane Div.	17	Package Machinery Co.	86
Eastman Kodak Co., Chemical Sales Div.	69	Peters Machinery Co.	97
Equality Novelty Corp.	107	Phoenix Metal Cap Co.	1
Federal Tool Corp.	9	Pneumatic Scale Corp. Ltd.	91
Fitchburg Paper Co.	8		
Gardner-Richardson Co.	24-25	Rathbun Molding Corp.	101
Gellman Mfg. Co.	107	Riegel Paper Corp.	13
Goodyear Tire & Rubber Co., Pliofilm Sales	3	W. C. Ritchie & Co.	19
Hampden Glazed Paper & Card Co.	Insert 4-5	Royal Paper Corp.	Insert 22-23
Heekin Can Co.	71		
Hudson-Sharp Machine Co.	109	Sefton Fibre Can Co.	5
Humitube Manufacturing Co.	109	Stokes & Smith Co.	95
		Sutherland Paper Co.	21
		Sylvania Industrial Corp.	26
		Union Paste Co.	105
		U. S. Printing & Lithograph Co.	107
		Western Union	16

MODERN PACKAGING
 BRESKIN PUBLISHING CORPORATION
 CHANIN BUILDING • 122 E. 42nd St., New York, N.Y.

Why is it... so many cereals are packed in Michigan Cartons?



Summer months are cereal months. Advertising and promotional schemes are carefully timed to greet the summer market. Production is stepped up all along the line ready to meet the peak season. At this time it is absolutely essential that carton schedules be kept — slip-ups or delays mean serious slow-downs, loss of business and prestige.

Among cereal manufacturers Michigan Cartons are outstanding for these reasons — their colorful eye-appeal, their built-in strength, their fidelity to rigid specifications, and this important fact . . . *large or small, carton shipments always come through hitting the schedule on the nose!*

Probably your product is far removed from breakfast cereals. Nevertheless there are times when the pressure is on — when it is imperative to you that carton shipments arrive on the dot.

Here's a suggestion. Learn now how Michigan Cartons can relieve your schedule worries. For information about a complete carton source, write today.



Michigan Carton Co.

BATTLE CREEK, MICHIGAN

MISTER FOOD MERCHANDISER...

Food stuffs are better packed in Michigan Cartons. Partial list of products now using Michigan Cartons include butter, lard, meats, spices, coffee, tea, coconut, chocolate, pies, cakes, cookies, candies, tapioca, rice, gelatins, macaroni, and spaghetti. Follow the leaders — specify Michigan Cartons!



Manufacturers of **BOXBOARD** • **FOLDING CARTONS** • **FOLDING DISPLAYS**

"WHAT A BRIGHT LITTLE NUMBER!"



AND what a bright idea behind this handy pocket flashlight housing so attractively turned out in bright BEETLE* colors! The Burgess Battery Company finds this an effective way to *double-up* the unit of sale and refill business for their batteries. It's another outstanding example of how BEETLE provides manufacturer, wholesaler and retailer with a "plus" of broad, attractive, eye-catching appeal for basic merchandise.

Similarly, BEETLE can give economical sales and color styling to widely varied products and product housing requirements. In terms of your own product, BEETLE quite likely offers

many opportunities for extra "material" advantages. BEETLE's staff of experienced plastic technicians are ready to contribute their help to aid you in your product problem. Write us outlining your requirements.

AMERICAN CYANAMID COMPANY
Plastics Division



34 ROCKEFELLER PLAZA • NEW YORK, N. Y.

*Trademark of American Cyanamid Company applied to urea products manufactured by it.

Beetle

THE PLASTIC THAT'S ALL
COLOR-IN ALL COLORS

S ALL
COLOR!